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Lloyd G. Humphreys

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The University of Chicago Press

The Journal of GENERAL EDUCATION

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THE JOURNAL OF
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EDITORIAL COMMENT

Reuben Frodin

We face today a world revolution; and thinking men hope that wisdom rather than force will resolve the issues, which are many and complex. History, ancient, modern, and contemporary, is filled with evidence that force has many times been resorted to; and we are properly apprehensive. But the hopes and aspirations of the American people since their first settlement on this continent compel us to exhaust our intellectual resources for the peaceful solution of problems posed by world revolution. We must have widespread participation in the preparation, reaching, and carrying-out of decisions of importance to the welfare of the community: local, national, and world. The "great debate" of the 1950's is possible in the United States because our society has provided a minimum of general education—which it constantly seeks to expand—a minimum of leisure—which technology steadily expands, and conditions of health and physical well-being.

That the collective wisdom of Americans has not resulted in the peaceful solution of each and every domestic and foreign dispute need not—indeed, cannot—deter us from continued and extended effort to use that wisdom. Although we fought two wars with Great Britain in achieving our national sovereignty, it is fruitful to recall the kind of debate which took place in the eighteenth century as an example of discussion displaying, to a high degree, man's rationality in his continuous search for the good society. Reviewing recently the "great debate" on the American Revolution, I came across a speech made in the House of Lords on January 20, 1775, by the Earl of Chatham, advocating the removal of General Gage's troops from the city of Boston. The position which he took showed the influence of Benjamin Franklin in talks which they had had on colonial affairs; and Chatham revealed an appreciation of the intellectual resources drawn on by Americans in their conduct of government. Because they bring to the mind a kind of glow which accompanies the realization of the role of wisdom in the settlement of issues, Chatham's words are worth reproducing. He said:

> Look at the papers [to the House of Lords] from America; when you consider [American] decency, firmness, and wisdom, you cannot but respect their cause, and wish to make it your own. . . . In all my reading and observation—and it has been my favorite study—I have read Thucydides, and have studied and admired the master-states of the world—that for solidity of reasoning, force of sagacity, and wisdom of conclusion . . . no nation, or body of men, can stand in preference to the general Congress at Philadelphia. I trust it is obvious to your Lordships that all attempts to impose servitude on such men, to establish despotism over such a mighty continental nation, must be vain, must be fatal. We shall be forced ultimately to retract; let us retract while we can, not when we must.

It may be said, of course, that Chatham did not persuade his colleagues, that General Gage's troops were not removed from Boston, and that Britain and her American colonies were at war shortly thereafter. A not insignificant observation that can be made is that there was a free parliament to debate the issue, there was an opposition to the government party, there was a recognition of the position of the colonies, there was tribute to the methods of reaching conclusions in Philadelphia, and there was prophecy that despotic force would fail. One can ask how different the world picture would look today if these same observations could be made about the Presidium of the Soviet Union. We know that they cannot, and this leads thinking men to make decisions about protecting the national security which run counter to our root-beliefs about a society of free men. We could perhaps produce another Franklin, but we know not where to find a Chatham.

We believe with Jefferson that democracy is the "world's best hope," and we know from the UNESCO inquiry to leading philosophers the world over (described in the October, 1949, issue of this *Journal*) that Lincoln's formulation in the Gettysburg Address, "government of the people, by the people, for the people," commands considerable agreement in most quarters of the globe when attempts are made to examine ideological interpretations of the meaning of "democracy." These philosophers agree that to serve the people in the broadest sense of the term, and ultimately the people of the earth, is the sole justification of government. They are in general agreement, also, that the people are served by giving the fullest possible access to the means by which each member can develop personal possibilities without jeopardizing the chances of others. Finally, they agree that participation in government can flourish when the issues are brought before an *educated* citizenry.

For the student, education is a process by which he learns what he does not know or what he knows imperfectly. By a process of observation—like the Earl of Chatham's—and reasoning, the student becomes educated and takes his place among his fellow-citizens; observation may consist of reading or of scientific experimentation, and reason should follow from the active use of the brain in an orderly consideration of the modes of analysis. The student must learn what the Russians have given no indication of believing, even if they know: that the end of knowledge is truth. Finally, the student must acquire a set of values which tend to be the values of the past but which, because of the nature of the continuing processes of education, may change.

I have mentioned observation as consisting of reading and scientific experimentation; this is, of course, merely a working definition to suggest the varied scope of the learning process. Lloyd G. Humphreys' expert summary of what fifty years of research have provided in the way of knowledge about transfer of training in this issue of the *Journal* reminds one that the laboratory of the science course must contain more than training in technicians' skills; it must provide problem-solving experience which will help develop the reasoning power. W. R. Hatch's description of his course in beginning botany indicates how the intelligent, courageous teacher can approach such a teaching situation—one which must be dealt with if the student is to gain an essential part of his education.

Norman Maclean's essay in this issue of the *Journal* is a sophisticated treatment of a book; it is a demonstration of a mode of analysis used in the humanistic disciplines. Mr. Maclean is concerned with a problem basic to general, liberal education—the perception of literary excellence. The reader of his analysis of the concept of what is tragic in a portion of Shakespeare's *King Lear* can see an example of the teacher's skill (translated here into print) in helping the student develop

such abilities.[1] His essay argues that such perception involves the recognition of a hierarchy of values, some possessed by any kind of good writing, some possessed by only certain kinds of writing, and some unique to each particular piece of literature. It is therefore opposed to two schools of criticism that have been prevalent from time to time—one which sees in all individual works only examples of very general and abstract criteria, and the other which has no criteria or an infinity of criteria, since its concentration is exclusively upon the uniqueness of each work.

The question of values (and the teaching of values) is much discussed by educators today. "Values" tends to be more high-sounding and a more extensive term than "loyalties"; but when a man's loyalties (and the plural is deliberately used) are questioned, what is meant is: What are his values and how are they affected by what is happening in the world today? We know that there are moral, spiritual, and intellectual values; that there are cultural, political, and economic values; and that all these values are interrelated. We know that educators, philosophers, and theologians are not in agreement as to the ordering of these values or, what is perhaps more important when we consider the role of education, how values are taught. There are those who cogently argue that the college and university cannot be expected to teach morals because there is limited time at the disposal of education, because of the impact of other social forces on the student, and because the moral virtues are habits, acquired by experience. There are others who say: We all know what good habits, morals, and values are, why don't we just tell the students? Then there are those who just dismiss the problem by saying that the educators should be content to train the student in a particular line of work and get him a job. For this issue of the *Journal*, Earl Edgar, who has been working on the problem of values that can be approached through the teaching of the social sciences to college students and adults at Kansas State College, contributes an essay on the problem and on what research can tell educators about it. A. C. Benjamin presents a summary view of teaching methods frequently used in classroom learning situations in which values are involved.

Because it is the purpose of the *Journal of General Education*, this issue seeks to bring to those in the colleges and universities concerned with general, liberal education articles and materials which will help them in their thinking and their teaching. Benjamin Franklin, the wise man who helped to inform the Earl of Chatham about America, wrote in his *Proposals Relating to the Education of Youth in Pennsylvania* (1749) that under utopian conditions students would be "taught *every thing* that is useful, and *every thing* that is ornamental. But art is long and their time is short. It is therefore proposed, that they learn those things that are likely to be *most useful and most ornamental;* regard being had to the several professions for which they are intended." And his specifications of subject matters for study indicate the breadth of curriculums which would be characteristic of a thoughtful modern program of general *and* specialized or professional education.

[1] Another "demonstration piece" in the field of literary criticism was R. S. Crane, "The Plot of Tom Jones," in the January, 1950, issue of this *Journal*.

VALUES, SOCIAL SCIENCE, AND GENERAL EDUCATION

Earl E. Edgar

It is a commonplace that an educational system reflects the demands of the culture of which it is a part. When that culture is in crisis, as ours has been for some time, those demands take the form of urging upon the schools the importance of inculcating in the young a commitment to the culture's values. The analysis and the implications of this task become a concern of the educational literature. The following quotation is taken as typical:

> If the schools seriously take education for the defense of democracy as an objective, then they need to be concerned about designing an educational program that will place more emphasis upon the development of the attitudes needed by mature individuals for effective participation in democratic group living. Such a program will provide opportunities . . . [for growth] in those ideals and attitudes that will exert a directive and dynamic influence in making them the kinds of citizens that democracy needs. . . . Schools . . . must help students to understand and develop an undying faith in and loyalty to the three basic principles of democracy: the uniqueness and worth of the individual; the intelligence of the common man and his ability to settle social problems in a peaceful and orderly manner by means of discussion and persuasion rather than by force and dictation; and group and individual responsibility for questions of social concern.[1]

It might be thought that, at the college level, general education programs represent the answer to such prescriptions. General education courses are supposed to differ significantly from more traditional courses, in that they place less emphasis upon the acquisition of information and greater emphasis upon values and attitudes. It would be natural to expect the social sciences to make their contribution to general education programs in terms of aiding the development in students of appropriate social and political attitudes and value systems. And, indeed, most such courses do include as one of their major purposes the development of "effective citizenship in a democracy."[2]

However, an examination of what is done in such courses indicates that they still are very largely knowledge-oriented. In some cases the actual objective seems to be the acquisition of information and methodology in the social sciences. Even when "values" are considered in any explicit fashion, the assumption seems to be that by lectures and reading about various cultures, including our own, commitments to democratic values will "emerge." It may be, of course, that such approaches accomplish much more by way of affecting the attitudes of students than we commonly think, although this is difficult to accept in view of the scarcity of the evaluative data in this area and the direction pointed to by such evaluative data as are available. However, discussion among teachers of such courses provides additional evidence on this question because it reveals a somewhat general disinclination to undertake in any *direct* sense the task of "helping students to develop an undying faith in and loyalty to the basic principles of democracy."

[1] J. Paul Leonard and A. C. Eurich (eds.), *An Evaluation of Modern Education* (New York: D. Appleton-Century Co., 1942), p. 147.

[2] Cf. Earl J. McGrath (ed.), *Social Sciences in General Education* (Dubuque, Iowa: William C. Brown & Co., 1948).

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In view of the vital significance of such an accomplishment, if it were possible, surely it would be worth while to indicate what seem to be the major reasons for this disinclination and to subject them to some analysis.

I

One of the major reasons is the straightforward denial that a "commitment to democratic values" can be developed through course work at the college level. Hutchins has provided a systematic analysis of this issue, which in his terminology is the impossibility of teaching morals through university instruction.[3] This cannot be done, he claims, first, because the university, particularly in the limited time at its disposal, cannot cope with the impact of the rest of society, especially as that is made through the media of mass communication. Second, the university must fail also, he claims, because of the nature of the task: "The moral virtues are habits, and habits are formed by acts. We can have no assurance that courses in elementary, intermediate, and advanced goodness will be followed by good acts." And, third, this objective is an impossible one for university education because of the nature of the student. To be good involves being practically wise or prudent, and this requires more experience and reflection than is characteristic of college students. Furthermore, because man is animal as well as rational, true morality without religion is unlikely. "It is improbable that the practice of democracy now or in the future can be achieved merely by the demonstration of its reasonableness. Men, simply because they are men, are unlikely to find within themselves the power that can bring the good life and the good state to pass."

[3] See his address, reprinted in *Morals, Religion, and Higher Education*, "University of Chicago Round Table," No. 617 (January 15, 1950); and "The Idea of a College," *Measure*, I (1950), 362. A discussion of what Hutchins thinks can be done is presented later in this paper.

On the other side, however, it is claimed that data are at hand to show that attitudes and values can be altered by course experiences.[4] One of the generalizations to which attention is frequently called by students of attitudes is the increasing "liberalism" of the college student in the United States through four years of his educational experience.[5] Again, Peterson and Thurstone's experiments have demonstrated that motion pictures "can be extremely potent influences on social attitudes and that it is not hard to find pictures which will in-

[4] Assuming, of course, that attitude scales measure attitudes accurately. For the most part, however, data are gained from tests involving verbal responses and hence are only as valid as the assumption that there is a high correlation between verbal and nonverbal behavior. For a systematic consideration of the factors which tend to invalidate this assumption see Herbert Hyman, "Inconsistencies as a Problem in Attitude Measurement," *Journal of Social Issues*, V, No. 3 (1949), 38–42. These limitations have, of course, been recognized by those interested in attitude measurement, and attempts have been made to overcome them by the use of projective techniques. The use of projective methods, however, is rather recent, and little has been done in regard to mass testing. Apart from the general question of the correlation between verbal and nonverbal behavior, there are also some problems which relate particularly to attempts to evaluate the influence of education upon attitudes. The difficulties here lead Murphy and Newcomb to remark, "One is often left wondering whether attitude changes coincident with a given period of education are not simply consequences of additional months or years of living in a particular cultural environment, rather than results of the school experience itself" (see Murphy and Newcomb, *Experimental Social Psychology* [rev. ed.; New York: Harper & Bros., 1937], p. 980).

[5] Murphy and Newcomb, *op. cit.*, pp. 948–51, 982–85, 988; Leonard and Eurich, *op. cit.*, p. 95; T. M. Newcomb, *Social Psychology* (New York: Dryden Press, 1950), p. 205. Example of studies are A. W. Kornhauser, "Changes in Information and Attitudes of Students in an Economics Course," *Journal of Educational Research*, XXII (1938), 288–98; Salmer and Remmers, "Affective Selectivity and Liberalizing Influence of College Courses," *Journal of Applied Psychology*, XVII (1933), 349–54; C. W. Telford, "An Experimental Study of Some Factors Influencing the Social Attitudes of College Students," *Journal of Social Psychology*, V (1934), 421–28.

fluence people in favor of or against certain values."[6] Other experimental work[7] might be cited to confirm the conclusion that, whatever the theoretical objections may be, the fact is that the value systems of college students can be altered through various course devices.

Some research[8] indicates, however, that an increasing opportunity to study issues, especially if the study includes attention to conflicting points of view, means decreasing effectiveness in altering attitudes. This illustrates one of the first rules for affecting attitudes: the influence favoring the change desired must not be neutralized by contrary influences.[9] Two other rules are generally accepted: The method should involve vivid, firsthand experience, and it should make use of individuals, groups, institutions, or symbols thereof, which have prestige value for those whose attitudes are to be affected.[10]

Unfortunately, these principles all connote propaganda rather than education. This undoubtedly is the second major reason for the disinclination to attempt to "inculcate democratic values" by way of social science courses. The moral seems clear that the alteration of attitudes and values is possible only by methods inappropriate to the educational process. Indeed, from the same source which celebrates the potencies of motion pictures comes the tempering thought that "it is disturbing to know that children can be so easily exposed to pictures which in one or two hours can undo much that the school had done in building up desirable attitudes."[11]

Educators certainly need to think precisely about such implications. Is the development in students of a genuine commitment to democratic values, through affecting the appropriate attitudes, an acceptable formulation of one of the major contributions of the social sciences to the college general education program? The considerations taken to be pertinent to this question are (1) the compatibility of democratic philosophy and the objective of affecting students' value systems and (2) the origin of attitudes and, as a consequence, the manner in which they may be changed.

II

The first consideration immediately raises the question of the distinction between education and indoctrination. The basis for this distinction is a value judgment calling for respect for the uniqueness and worth of human personality. Both education and indoctrination involve a relationship between one who is influencing and one who is influenced. The distinction depends upon whether the one who is seeking to exercise the influence values the integrity of the personality of the one who is being influenced. If he does, he will be concerned with developing the potentialities of that individual as a human being, to enable him to be an autonomous personality. He will do this, fully realizing that such autonomy represents the possibility of purposes which differ from, even oppose,

[6] See Leonard and Eurich, *op. cit.*, pp. 110 ff. Thus, after seeing *Birth of a Nation*, the subjects were 20 per cent less sympathetic toward the Negro than they had been before they saw it. After seeing *Sons of the Gods* they were 18 per cent more tolerant of the Chinese, and 60 per cent of this favorable attitude had remained after nineteen months (*ibid.*).

[7] *Ibid.*; and also studies by Annis and Meier, W. K. C. Chen, and S. P. Rosenthal.

[8] See, for example, B. M. Cherington, *Methods of Education in International Attitudes* ("Teachers College Contributions to Education," No. 595 [1934]); I. C. Gardiner, "Effect of a Group of Social Stimuli upon Attitudes," *Journal of Educational Psychology*, XXVI (1935), 471–79. See also Murphy and Newcomb, *op. cit.*, pp. 954–62.

[9] See Murphy and Newcomb, *op. cit.*, p. 979; Newcomb, *Social Psychology*, p. 209; G. W. Allport, "Attitudes," in *A Handbook of Social Psychology*, ed. Carl Murchison (Worcester: Clark University Press, 1935), pp. 813–14.

[10] On the effects of prestige see H. B. Lewis, "An Experiment on the Operation of Prestige Suggestion," in *Readings in Social Psychology*, ed. Newcomb and Hartley (New York: Henry Holt & Co., 1947), pp. 232–43.

[11] Leonard and Eurich, *op. cit.*, p. 112.

his own. Aristotle's definition of the slave—he who is not his own, but another's man—well defines the intention and—when it is successful—the result of propaganda.[12]

This account presupposes, it will be noticed, that the distinction between education and indoctrination cannot be made in terms of whether or not the process in question influences the total personality of the individual. To employ, as usually is done, the distinction between "imparting knowledge and skills" and "affecting the personalities and controlling the behavior of individuals"[13] as a basis for differentiating the two processes is to suppose that knowledge and skills have nothing to do with the personality and behavior of individuals. It is to suppose as well that the development of the appropriate attitudes and habits is not a necessity for the acquisition of knowledge and skills. The distinction between knowledge, skills, attitudes, and habits is, in fact, only an analytic one, and in any individual such factors are never exercised in any separate way. It is not only by their knowledge and skill that lawyers, physicians, scientists, and philosophers are distinguished, but by their attitudes and habits as well. The question, then, is not whether the educational process should attempt to affect the value systems of students, but what attitudes and values are inextricably linked to the skills and knowledge essential to the requirements of a given life-area, preparation for which defines the task of education.

This means that we need to examine the kinds of needs which the phrase "democratic citizenship" involves and which would serve to determine the objectives of courses which have preparation for democratic citizenship as their goal. These needs are indicated by Donham's definition of citizenship as "a matter of the ability of a community to live with itself continuously and of the various people in it to live as responsible members of the community."[14] In this conception of citizenship, knowledge certainly is involved: not only current or temporary knowledge, which the citizen needs in order to meet the specific problems of the day, but, as a context for such specific information, background knowledge as well, an understanding of the actual structure and function of social institutions and also the more general ideals and basic assumptions of the society which those institutions are intended to embody.

The skills involved are of at least two kinds. One consists of the skills involved in acquiring knowledge, communicating it to others, and applying it to the situation at hand. No insignificant part of such skills is the ability to judge the reliability of sources of information. The other kind of skill consists of the abilities involved in democratic decision-making. A basic feature of democracy is that issues must be settled by consensus; and the quality of the decision will depend upon the quality of that consensus. Anyone who has worked with others will realize the amount of skill required on the part of all members of the group if that group is to work fruitfully and constructively in defining and solving its problems, in the process utilizing to the

[12] Presumably one of the reasons this simple truth is not seen more clearly is the impossibility of influencing people without altering in some sense their own purposes and goals. Partly this is because of human and individual frailties but mainly because the educational process, by its very nature, represents a dissatisfaction with an individual's purposes and goals at any given time. But it makes all the difference in the world whether the dissatisfaction is felt by the student or only by the teacher, and what may be the nature of the role and purposes of the teacher in stimulating such dissatisfactions in the student.

[13] See, for example, the discussion of this distinction in Leonard Doob, *Propaganda* (New York: Henry Holt & Co., 1935), pp. 80 ff.; and *Public Opinion and Propaganda* (New York: Henry Holt & Co., 1948), pp. 323 ff.

[14] Wallace B. Donham, "Education for Democracy: Developing Responsible Student Initiative," in *A Handbook for College Teachers*, ed. Bernice B. Cronkhite (Cambridge: Harvard University Press, 1950), chap. xvii.

full the differing resources represented by each member of the group, minimizing the difficulties arising out of those differences, and carrying the whole enterprise forward without frustrating the participants by neglect or domination.

That the foregoing types of knowledge and skill imply certain attitudes and habits should be clear. First, the knowledge objective and the skills involved in acquiring knowledge imply the habit of keeping informed and the attitudes of preferring reason and knowledge to prejudice and emotion in solving public problems. Without the habit of keeping informed, the knowledge will not be secured or retained, and, without the attitude, neither the knowledge nor the skills of acquiring knowledge will be sought after or applied. Second, the skills of democratic decision-making involve the habit of using democratic processes in solving public problems and the corresponding attitude that prefers these processes to authoritarian ones. Third, these skills also involve the habit of viewing issues in terms of the common good rather than of special interests and the preference for the good of all instead of the good of particular parts of society. While our society has traditionally built upon the notion that the common good will arise out of the conflict of pressure groups and the log-rolling of special interests, yet it is obvious that we must have a criterion of justice to test the truth of this assumption and control its operations; and, in order to preserve the control of affairs from below, as many members of special-interest groups as possible must desire to curb their drive for power by reference to the good of the whole. A Supreme Court justice once said of the Court that "the only check upon our own exercise of powers is our own sense of self-restraint." This is certainly true of that ultimate power, the sovereign people, who, after all, determine the spirit within which the laws, the Constitution, and the political machinery must operate.

What has been said is a far from complete analysis of the habits and attitudes implied by the knowledge and skills objectives of democratic citizenship.[15] Indeed, the task of defining these habits and attitudes—the democratic value system—with greater and greater clarity should be a mutual concern of teacher and student in any educational experience aimed at developing democratic citizens. The point of emphasis here is not that individuals always have the attitudes and habits appropriate to the knowledge of ideals which they may possess but that all these form a mutually consistent system, no part of which can be omitted, in the definition of *educational* aims, without violence to the remainder.

Ultimately this system stems from the fundamental premise of respect for the integrity of the individual. Yet it is this premise which is often thought to render inadmissible an attempt in courses to achieve anything but the knowledge, and occasionally the skill objectives, of citizenship. However, adherence to nonindoctrination, based on respect for the individual's integrity, involves us logically in accepting as objectives the development of such attitudes and habits without which the fundamental premise itself will fail to gain substance and support. To believe otherwise is to indulge in a fruitless search for the "standpointless standpoint." To refuse to "indoctrinate" a student because you believe in respecting his personality, of course, implies that the teacher's treatment of con-

[15] An interesting classification is presented by Ralph K. White, "Ultimate and Near-ultimate Democratic Values," *Progressive Education*, XXVII, No. 6 (April, 1950), 165 ff. The "ultimate values" are presented as a concern for individual welfare and group achievement, and individual freedom as a major element in individual welfare, particularly freedom of thought and expression. The "near-ultimate values," which are the means of achieving the ultimate values, are listed as group decision, active receptivity, responsibility to contribute, freedom from status-mindedness, orientation to reality, and friendliness.

troversial issues is characterized by a respect for the truth, but the issue goes much deeper than that. If the teacher refuses to "indoctrinate" a student because he believes in the uniqueness and worth of each individual, he must acknowledge that he also believes in the uniqueness and worth of all individuals, and this belief would be contradicted by his failure to attempt to enable the bigoted individual to alter his attitudes in a direction toward a sensitivity to the value of each individual. Democratic values are not self-defeating, and it would be self-defeating if respect for the integrity of an authoritarian personality is interpreted to mean that the teacher must scrupulously refrain from attempting to develop in such an individual a concern that all points of view be taken into account before decisions are made. In short, the teacher is committed to the employment of those means compatible with a respect for human dignity which will be effective in securing the students' commitment to the same belief and the value system which it entails.

III

It has been pointed out that democracy implies responsible membership in groups and that the development of certain attitudes and habits is essential to the fulfilment of such responsibilities. In the first place, this points up the inadequacy of the conventional social science disciplines alone as a preparation for democratic citizenship. The question of voting for or against a severance tax, for example, is not merely a matter of a technique of raising revenue; the problem of justice, for both the owner of natural resources and the society, is involved. Accordingly, as indicated already, one of the important contributions of social science to general education is to provide the student an opportunity to become fully conscious of the complex of values connected with a democratic social philosophy. Specifically, this means an examination of the meaning and grounds of these values, their consistency as a system, and the consistency between them and actual individual and social behavior. It is this rational analysis which Hutchins apparently has in mind when he says that, while the moral virtues are habits, and habits are formed by acts rather than instruction,

> habits are so much a function of the circumstances under which they were formed that we can have little assurance of their continuance in other circumstances unless the person who has the habits knows why he should retain them. As habits are formed by acts, they are broken by the cessation of those acts or by the continued performance of conflicting acts. The child carefully nurtured in good habits that he practices without comprehending the reasons for doing so is likely to fall from grace when he casts off the parental apron strings. The serious consideration of the intellectual foundations of good habits should supply him with the conviction he needs in order to keep up in adult life the good work begun in childhood.[16]

While this conception outlines an essential task, it would be inadequate if taken as a complete statement of the educational job. First, it seems to embody the assumption that, by the time the student reaches college, good habits will have been formed, however unconsciously, with respect to all the major aspects of life to which the democratic creed is applicable and which raise problems the student will face. Toward certain life-areas—international affairs, for example, or industrial relations; it will depend upon the social background of the student—individuals may come to college with attitudes which are relatively unstructured. The rational structuring of these as part of a total pattern of attitudes is one of the ways in which general education can make a contribution in this area.

Another assumption which would seem to be made by this conception is that the

[16] "Morals, Religion, and Higher Education," *op. cit.*, pp. 25–26; *Education for Freedom* (Baton Rouge: Louisiana State University Press, 1946), p. 30.

"work begun in childhood" was good, that the habits brought to college are good ones. But our most crucial problem arises precisely when an analysis of democratic values reveals an inconsistency between the attitudes verbally accepted as good and the actual behavior of the individual or between democratic values and the beliefs and behavior of individuals. Treatment of this problem in the light of the teaching commitment analyzed in the previous section of this essay requires a consideration of our second major question, the origin of attitudes and, as a consequence, the manner in which they may be changed.

Attitude research indicates, first, that attitudes are not formed solely, or perhaps even primarily, on the basis of firsthand contact or information. Firsthand contact may reduce prejudice and bias, but the most prominent examples of this method involve favorable experiences and are hardly decisive.[17] As for information, one teacher testifies that "more than five hundred students of the author continued to rank the 'American' as the superior 'race' after completing a course on race relations."[18] Little or no correlation between changes of attitudes and information were shown by studies by Droba[19] and by Murphy and Likert.[20] Attitudes, indeed, help determine the information that is acquired and retained, as is illustrated by the work on information about public affairs included in Newcomb's Bennington study.[21] However, the effect of college instruction (in which information must have played a large part) upon the "increasing liberal-

[17] See F. T. Smith, "An Experiment in Modifying Attitudes toward the Negro" (Ph.D. thesis in library of Teachers College, Columbia University, 1933), described by Murphy and Newcomb, *op. cit.*, p. 972; and the experiences in World War II with Negro infantrymen who were organized into platoons which were put into companies made up otherwise of white soldiers, as described in *To Secure These Rights: Report of the President's Commission on Civil Rights* (Washington, 1947), pp. 82 ff.; Arnold M. Rose, "Army Policies toward Negro Soldiers: A Report on a Success and a Failure," *Journal of Social Issues*, III, No. 4 (fall, 1947), 26–31; "Opinions about Negro Infantry Platoons in White Companies of Seven Divisions," in Information and Education Division, U.S. War Department, *Readings in Social Psychology*, pp. 542 ff. Allport (*op. cit.*) lends support to the notion that experience is not the major source of attitudes. He assigns the name "integration" to the development of attitudes through the accretion of experience, that is, through the integration of numerous specific responses of a similar type; and he remarks that, if integration were the only mechanism concerned in the formation of attitudes, they would be modified by every experience that relates to them.

[18] Donald R. Young, *American Minority Peoples* (1932), p. 401; cited in G. Myrdal, *An American Dilemma* (New York: Harper & Bros., 1944), p. 109. See also L. Young, "Some Effects of a Course in American Race Problems on the Race Prejudices of 450 Undergraduates at the University of Pennsylvania," *Journal of Abnormal and Social Psychology*, XXII (1927), 235–42.

[19] D. D. Droba, "Education and Negro Attitudes," *Sociology and Social Research*, XVII (1932), 137–41.

[20] Cited in Muzafer Sherif, *An Outline of Social Psychology* (New York: Harper & Bros., 1938), pp. 347–48.

[21] See the report prepared by Newcomb included in Sherif, *op. cit.*, pp. 139–55; and Newcomb's "Some Patterned Consequences of Membership in a College Community," in *Readings in Social Psychology*, pp. 345–47; and Newcomb's *Social Psychology*, pp. 194–96, 206, 642. Also cf. Myrdal, *op. cit.*, Appendix X, note on p. 1139: "As examples of how opportune ignorance and knowledge may be, it might be pointed out that Negroes are amazingly sophisticated with respect to the incidence of indirect taxation and the environmental influences on intelligence test scores. Even ordinary Negroes with little formal schooling can explain to the satisfaction of an economist just how taxes on real estate are passed on to the tenant, and can often do better than the trained psychologist in revealing just how lack of incentive and intellectual stimulation can keep intelligence tests from revealing 'innate ability.' It is apparent that the reason Negroes know these things is that they have been victimized by indirect taxation and the intelligence tests. . . . It is apparent, too, that whites—especially the dominant ones, the ones who pay direct taxes and who have, or think they have, high I.Q. scores—have an opportune ignorance with respect to these things. *Even when simple facts are presented to ruffle their ignorance, they reject them*" (italics added).

ism" of students, already referred to, indicates that information does affect specific attitudes.

It would seem that to suppose that information is useless in affecting attitudes is far from justified, although it is impossible to state precisely to what extent success can be expected by this method. It may be that Myrdal's contention[22] is true, that there is a close psychological interrelation between beliefs about how reality is and valuations or ideas about how it ought to be. However, he points out that "facts by themselves do not improve anything." They aid, according to Myrdal, only under the conditions (which he believes to be true in our culture) that (1) people want to be rational and objective in their beliefs, (2) valuations exist on different levels of generality, and (3) the more general and "timeless" values are considered morally higher. Facts, then, can "improve" the situation only if they are functional within a process in which people are *forced by others to defend* specific valuations, e.g., regarding the treatment of a particular group of Negroes or an individual Negro, *in the light of* more general valuations, e.g., concerning human beings in general. If "valuations depend, to an extent, on the availability of functional beliefs in which they can be 'lived out' or expressed," as Myrdal claims, facts which change the beliefs (concerning, for example, the innate intellectual inferiority of the Negro), if urged within a context of basic values, can alter the specific valuations.

All of this does not account, however, for the great amount of resistance to the acceptance of these facts. This resistance comes, apparently, from attitudes formed largely by taking over stereotypes which, from the standpoint of the individual, already exist in the groups to which he belongs or refers himself.[23] This truth is expressed in Horowitz' succinct statement, based on his study of prejudice in children from New York, urban Tennessee, and urban and rural Georgia, that "attitudes toward Negroes are now chiefly determined not by contact with Negroes, but by contact with the prevalent attitude toward Negroes."[24] Further support for the primary significance of what Allport calls "ready-made attitudes" is provided by the remarkably consistent picture of social distance for various national and ethnic groups in the United States as shown by several studies over a period of years.[25] These initial stereotypes having been acquired, further experience and information then are secured and retained on a selective basis, largely serving to confirm and integrate the attitudes already institutionalized in the society. As Sherif says, in arguing against the thesis that prejudice may be explained in terms of individual pathology,

> This fact has come out time and again in studies such as those of Bogardus, F. H. Allport, Meltzer, Zeligs and Hendrickson, Hartley, Murphy, and Likert, and others. As good members of their group, the relatively better adjusted majority of the in-group shares the institution of social distance. Response to the individuals belonging to various out-groups

[22] The following is based largely on Appendix I, "A Methodological Note on Valuations and Beliefs," Myrdal, *op. cit.*, pp. 1027–34.

[23] Some basic sources for the presentation to follow are Kurt Lewin, *Resolving Social Conflicts*, ed. Gertrud Weiss Lewin (New York: Harper & Bros., 1948), particularly chap. iv, "Conduct, Knowledge, and Acceptance of New Values"; Sherif, *op. cit.*; *Learning and Instruction: Forty-ninth Yearbook*, Part I (Chicago: National Society for the Study of Education, 1950), chaps. v and vi; also works already referred to by Allport, Newcomb, and Murphy and Newcomb.

[24] Eugene L. Horowitz, "Development of Attitudes toward Negroes," *Readings in Social Psychology*, pp. 507–17; originally from *Archives of Psychology*, No. 194 (1936).

[25] See Daniel Katz and Kenneth W. Braly, "Verbal Stereotypes and Racial Prejudice," *Readings in Social Psychology*, pp. 204–10. Adapted by the authors from "Racial Stereotypes of 100 College Students," *Journal of Abnormal and Social Psychology* (1933), pp. 280–90, and "Racial Prejudice and Racial Stereotypes," *ibid.* (1935), pp. 175–93.

is regulated by the position of those groups on the social distance scale. The concentration of individual frustrations, aggressions, and other individual factors can shed light on a limited area—the area of the degree of intensity with which the particular individual reveals his prejudice.[26]

For experience must be structured; ambiguity or unstructuredness renders judgment and activity tense and difficult, and the ego is no exception to this general principle. The development of the ego, indeed, corresponds to taking over, by membership in or reference to social groups, the frames of reference which are necessary for having structured experience. His major attitudes are derived from the family and other membership groups—play group, adolescent clique or gang, school, church, factory, union, club, etc.—and his reference groups —i.e., groups to which psychologically he refers himself, school, college, social clan, club, etc. The individual finds their definition of things must be accepted if he is to communicate with them, and, unless he can communicate, he can neither belong to nor reach a desired standing in the group. "Through cooperative participation he comes to accept the group norms as his own and to develop his identifications, loyalties, and inner responsibilities toward them (autonomy)."[27]

On this view, as Lewin points out, to change the individual's behavior, his perception, and his values are all the same task. Because of this ego-involvement, attempts to change attitudes, either by argument or by firsthand contact, meet with great resistance. To accomplish this change, Lewin argues, means that the individual must be brought to refer himself to new groups and social roles:

> Re-education influences conduct only when the new system of values and beliefs dominates the individual's perception. The acceptance of the new system is linked with the acceptance of a specific group, a particular role, a definite source of authority as new points of reference. It is basic for re-education that this linkage between acceptances of new facts or values and acceptance of certain groups or roles is very intimate and that the second frequently is a prerequisite for the first. This explains the great difficulty of changing beliefs and values in a piecemeal fashion. This linkage is a main factor behind resistance to re-education, but can also be made a powerful means for successful re-education.[28]

Lewin's conclusions are based in part on his now-famous experiments on changing food habits, in which he discovered that only 3 per cent of the women who heard lectures designed to increase the use of certain meats actually served one of the meats never served before, whereas after group discussion 32 per cent served one of them.[29] According to Lewin, this is because lecturing is a procedure in which the audience is chiefly passive, whereas group discussion, if conducted properly, is likely to lead to a higher degree of involvement and also to minimize resistance to possible change.[30] Both the "mass approach" —radio and newspaper propaganda—and the approach to the individual as such, he points out, "place the individual in

[26] Cf. Sherif, "The Problem of Inconsistency in Group Relations," *Journal of Social Issues*, V, No. 3 (1949), pp. 32–37.

[27] This presumably is the point of the studies reported in "An Experimental Study of Leadership and Group Life," by Lippitt and White (*Readings in Social Psychology*, pp. 315–30), prepared from data reported in a number of publications (Sherif, *An Outline of Social Psychology*, *op. cit.*, pp. 112 ff.; and Newcomb, *op. cit.*, pp. 643 ff.). For the Bennington study, see n. 21.

[28] Lewin, *op. cit.*, p. 59.

[29] K. Lewin, "Group Decision and Social Change," in *Readings in Social Psychology*, pp. 330–44.

[30] These two processes correspond to what Lewin calls the two basic methods of changing levels of conduct, and of them he says, "it is probable that the success of group decision and likely the permanency of the effect is, in part, due to the attempt to bring about a favorable decision by removing counter forces within the individuals rather than by applying outside pressure" (*ibid.*).

a quasi-private, psychologically isolated situation with himself and his own ideas," and this is true of the lecture, as well.

IV

An immediate inference from the foregoing is, of course, the difficulty of the task assigned to the social science course in general education by those who wish such courses to attempt to develop in students "an undying faith in and loyalty to democratic principles," when that phrase is taken seriously and in its full meaning. Without raising the problem of the appropriateness of the endeavor, to secure genuine commitment to democratic values, in those cases where there are serious contradictions between those values and actual belief and behavior, would involve no less than the restructuring of individual perception through the transference of loyalties from one group to another and the assumption of different social roles by the individual. When this is thought of as a task of classroom instruction, skills, knowledge, and aptitudes are demanded for which teachers at present are generally not equipped and which are more easily described than acquired. And, since such a process appears to involve dealing with "irrational" elements of behavior, it might be inferred that the class session accordingly would be transformed into an exercise in group therapy, with objectives irrelevant to those of the college or university.

Before judging such conclusions, it will be helpful to put the results of sociopsychological research into attitudes into an educational frame of reference. While it may be true that the alteration of attitudes most generally depends upon the feeling that such alteration is sanctioned by a group, it obviously does not follow that all group decisions will be the right ones. In the Bennington study already referred to, it was discovered that at this college individual prestige was associated with nonconservatism as that was measured by reference to specific social and political issues and events. Some individuals failed to show themselves in agreement with this majority attitude, however. A study of individual case histories showed that the reference groups for these and other "conservatives" often were home and family groups, the membership group (the college) being a reference group only in the negative sense. Now it may be true that those students who did change from conservative to liberal did so because of identification with a new group and that those who did not failed to do so because they continued to use the family as a reference group rather than the college community. To say so, however, is far from a complete account of the total situation.

The scientific approach typically concerns itself only with the causal factors explanatory of the different behavior of these individuals. But the philosophical, and hence educational, question is concerned with the validity of the decisions, whatever the causal factors may be. The same kind of account cannot be used to answer both questions; genesis must not be confused with validity. The question of validity is a matter of the evidence for the factual judgments involved, the logical relation of such judgments to conclusions, the evidence for the assumptions basic to the argument and the logical relation of such assumptions to the argument, and the correspondence of the conclusions reached with wider systems of truth, themselves established in terms of the same kind of considerations. In short, the distinction between the two kinds of questions—the scientific account of the origin of attitudes and the educational question of their validity—must never be lost sight of, either in the theory or in the practice of education. On the other hand, this does not mean that the scientific question is irrelevant to the educational question or may safely be ignored by those concerned with educating for objectives which involve attitudes and their development.

If membership in the college commu-

nity depends upon the acceptance, even at the expense of altering existing attitudes, of certain norms, then the college's responsibility for establishing standards consonant with democratic values becomes crucial. The mere fact that the standards actually in effect on a campus will, by and large, determine the attitudes of students on that campus does not, however, guarantee that the standards will be democratic ones. That will depend upon the nature and clarity of the philosophy of administrators and faculty and their ability to implement this philosophy with regard to fraternity, sorority, and dormitory policy, social and recreational arrangements, and instructional methods. It should not be forgotten, on the other hand, that policies of segregation, trivialization, snobbism, and authoritarianism are also policies, even if adopted by default or in deference to community pressure, and that the issue cannot be escaped by references to indoctrination and propaganda.

Thus it seems clear that "success" through the use of the face-to-face group must be measured in terms of implied standards of value and truth as a context within which the process works and on which it depends ultimately for its initiation. Obviously, in the Lewin experiments on changing food habits, certain truths about good food habits are presupposed. "The 'whole wheat bread' and the 'cod liver oil' experiments," one writer asserts,[31] "were in the hands of manipulators *who knew best*, and the decisions were on a much lower level of action than the policies a faculty is often called upon to frame." The same point is illustrated by the success experienced in using group decision as a factor in increased productivity on the part of workers[32] and in the rehabilitation of alcoholics and criminals. In each case there is present as a yardstick a set of standards supplied by knowledge and values embodied in groups outside the process.

On the other hand, it is of the utmost importance to recognize that these truths and standards are neither self-evident nor unchanging. This in itself should make us wary of attempting to impose them on anyone from above, but the more significant consideration is that, if further truths are to be discovered and new standards defined and applied under changing conditions, one of the tasks of education is that of developing in students the ability to participate in this process. Such a goal probably would be neither accepted nor, if adopted, successfully achieved if it is assumed that education proceeds in terms of received truths, with the teacher as a depository.

Furthermore, there is a profound difference between a set of standards available for purposes of measurement and an understanding and acceptance of that set of standards by those undergoing the educational process. The great danger to be feared is the separation of means and ends, of process from values accepted, without criticism and examination by all concerned with the educational program—students, teachers, administrators, and community. We must distinguish between experimental study of a club making theatrical masks, the purpose of which is to deduce information about group processes, and the use of the findings for educational ends. The use of the small-group method is simply a technique—and it may, indeed, be a vicious technique—of bringing group pressure to bear upon the individual in a situation actually controlled by "manipulators," if the teacher of the group is not himself genuinely democratic. His democracy must consist not merely in subscribing to a group of abstract slogans but in the genuine acceptance of individuals and a faith in their potentialities to work out their destiny if given the proper help. Such a belief is, of course, incompatible with a mechanical

[31] See George H. Henry, "The Group Process as Idea," *Educational Leadership* (April, 1950), pp. 453–61.

[32] See Newcomb, *op. cit.*, pp. 256 ff., 646 ff., for a description of the Coch and French studies.

adherence to majority decision and is tested indeed by evidence of a concern for individual rights.

If the teaching is animated and guided by such principles, then the use of small-group discussion appears to result in a situation more conducive to affecting attitudes than other commonly used techniques of instruction. This is because it makes it more difficult for the individual student to withdraw emotionally from the challenges to his value systems and his behavior which originate from the materials read and the arguments of his peers. He may succeed in effecting such a withdrawal under the lecture system, no matter how challenging the lecture may be; and he is unhindered under lecture conditions by the necessity of stating and defending, in the course of "public" discussion, his interpretation of the lecturer's thesis and arguments. In the small discussion group, group pressure is, indeed, involved; but the pressure is on the individual to face issues and examine his position, not to come to those conclusions sanctified by the agreement of the rest of the class.

In addition, it is pertinent to recall Myrdal's suggestion that information will affect attitudes only when it functions within the frame of reference of valuations and is brought to bear upon the beliefs used to support those valuations. To this may be added Lewin's remark: "People cannot be taught who feel that they are at the same time being attacked." His solution to the paradox of getting individuals freely to accept new values to which they are hostile consists, as we have seen, in getting them to accept belongingness in a group. On the same principle, he points out, the complete acceptance of previously rejected facts can be achieved best through the discovery of those facts by the group members themselves—then, and frequently only then, do the facts really become their facts.[33] If accepted as prescriptions for courses concerned with changes in attitudes, these two principles—that information must function within a frame of reference of valuations and, where possible, be discovered by the members of the group themselves—seem well adapted to the procedures of small-group discussion, with its emphasis upon policy questions and the acceptance of responsibility on the part of students.

If citizenship in a democracy means responsible membership in groups, in courses with democratic citizenship as an objective it becomes important not only to employ the kind of instruction under analysis but also to engage the student's attention on the nature of the process of group discussion and decision. Student participation in the formulation of course objectives, identification and evaluation of roles played in the group, and evaluation of class progress—all these are principles particularly applicable to the development of individuals capable of exercising an effective role in their community as adults. In becoming conscious of these processes the individual may become conscious of the factors which enter into the formation of attitudes and thereby may be freed, to the extent that such knowledge can do so, to make his decisions increasingly on the basis of evidence and logic.

It is easy to recommend a conception of the teaching art as the ability to transfer the responsibility of learning from the teacher to the members of the class, but this raises problems for the solution of which most of us are unequipped. Indeed, the teacher whose training has been almost exclusively in research has not begun to equip himself for such a task; and it is not clear that the resources and knowledge exist to provide the necessary training for the person who desires it. It may be worth while to indicate, at least, what some of these problems are. (1) One is that of genuine ac-

[33] See section "Action-Research Procedure," in Lippitt and Radke, "New Trends in the Investigation of Prejudice," *Annals of the American Academy of Political and Social Science*, CCXLIV (March, 1946), 167 ff.

ceptance of students at the level of development reached at any given time. This difficulty is accentuated by the gap between student and teacher in terms of the relative knowledge and resources each has at his disposal and because of the different purposes to which each has dedicated his energies. The problem exists when the teaching goal is primarily the transmission of information and is accentuated in the case of objectives relating to attitudes, in part because of assumptions about the relation of age and knowledge to soundness of value judgments. (2) A related problem concerns the ability of the teacher to maintain a balance between the emotional and intellectual aspects of the classroom experience. The teacher is not a counselor or a therapist, although the experienced teacher knows that there is some of both involved in his duties; he is also concerned with the development of the student with respect to the acquisition of knowledge, the ability to think critically, and the powers of analytic reading and rational evaluation. Here the virtue of the small-group discussion becomes its defect; for, as this technique is peculiarly appropriate to involving students in an examination of their basic beliefs, it raises the problem for the teacher of handling the hostilities and aggressions attendant upon such self-examination in such a way that the class becomes a fruitful rather than a frustrating experience for the participants. (3) Another source of frustration in such an instructional technique is the failure to satisfy the demand of students for structure and guidance. This is particularly a problem when the issues under consideration are in the area of value and policy, as in the case of the kind of problems which need to be the raw material of a course with citizenship objectives. The desire for authority (the textbook writer, the teacher, the "expert") and the desire for liberty (for criticizing "the expert," for proceeding at his own pace and in terms of his own interests) exist in varying degrees in each student, and it is the teacher's problem, in the case of each class, to estimate correctly and take into account this ambivalence. (4) What has just been said is only one example of the demands for flexibility and adaptability made on the teacher using this method of instruction. It also serves to set the problem, which is that of freeing the individual from dependence upon authority, whether that of the teacher or others, to become an individual who has the resources to welcome and exercise freedom. (5) Part of the latter task is connected with the use of information in relation to the issues under discussion. The real problem is to develop students to the point where they can recognize the need for resource material and can undertake the task of supplying this, from experience and from independent research, on their own. Likewise, (6) there is a problem not only of protecting each member of the class from the tyranny of the majority and of bringing out the contributions of those who are shy and nonverbal and keeping down the "monopolizers" but also of developing students' abilities to handle these problems of class process—which will become the problems of adult group work—themselves.

The difficulties of the task facing those who are concerned with the eternal problem of closing the gap between actual behavior and belief and the ideals of a democratic social system should not be surprising in view of the magnitude of the task. As Cardinal Newman remarked many years ago, "Quarry the granite rock with razors, or moor the vessel with a thread of silk; then may you hope with such keen and delicate instruments as human knowledge and human reason to contend against those giants, the passion and the pride of man."

SOME TECHNIQUES FOR TEACHING VALUES

A. Cornelius Benjamin

No adequate discussion of the techniques of general education is possible without a consideration of the goals of such education. But, since the disagreement on this latter question is both obvious and widespread, I shall state dogmatically the point of view which I shall adopt in the following discussion. Whatever else we may be trying to do in general education, we are attempting to provide the student with something that can be called an adequate attitude toward life—a way of looking at the world which offers at least a partial solution to the problem of existence and which provides him with a value perspective enabling him to meet "philosophically" the inevitable situations when he will be confronted with despair, disappointment, disillusionment, and finally death itself. When Matthew Arnold said of Sophocles that he "saw life steadily and saw it whole," we may presume that this was what he had in mind. The man with the good philosophy of life both sees the many aspects of the world and life in their interrelationships and is himself an integrated personality in the sense that he has a clearly defined pattern of values and is thus able, when conflicts between basic desires present themselves, to react intelligently and to make choices which will prove in the long run to have been wise ones.

It would be absurd, of course, to claim that we can provide the student in the few years when we have him under our tutelage with a "finished" philosophy of life. This is the product not of academic training but of years of living and learning. Seldom does one achieve an outlook of this kind even in his later life. In fact, there is much reason to doubt that a finished philosophy would be the kind we want. Someone has well said that a philosophy which is done is a philosophy which is done for. For life is too flexible to fit well into an unchanging form. But, even if such a fixed pattern were desirable, there is little likelihood that it could be adequately presented in a few short lessons.

There is still another reason why we should not put too much confidence in techniques which are designed to teach the student a philosophy of life. This has been so well expressed by Jacques Barzun that I shall quote him directly:

> The advantage of "teaching" is that in using it you must recognize—if you are in your sober senses—that practical limits exist. You know by instinct that it is impossible to "teach" democracy, or citizenship, or a happy married life. I do not say that these virtues and benefits are not somehow connected with good teaching. They are, but they occur as by-products. They come, not from a course, but from a teacher; not from a curriculum, but from a human soul.[1]

He adds:

> The only way to teach somebody is obviously to teach him something. Shall it be an attitude? I answer No because the only way to build up attitudes—once simply known as good habits—is by repetitious moralizing, and repetition . . . is undramatic. Even Aesop had to write fables to his maxims. Besides, the only attitudes worth teaching are flexible ones, adaptable to different circumstances. A tolerant person may not be perfectly tolerant but he will surely tolerate more things

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[1] *Teacher in America* (Boston, 1945), p. 10.

than those his parents or teachers happened to mention. This means that the only way to instill any human virtue is to have parents and teachers and friends who are themselves tolerant and just, and who in all reasonable opportunities evince that character.[2]

If we grant, then, that one of the tasks of general education is to help the student achieve a proper outlook on life and if we grant further that—owing to the short span of college life and to the nature of what we are trying to teach—we cannot complete the job, we are left with the problem of what we can do with some hope of success. Can we do anything to induce the student to accept an adequate philosophy of life? Can we persuade him, perhaps, that certain values are more lasting and satisfying than others? Can we get him to commit himself to a set of goals which may be taken, at least tentatively, as a design for living?

During more than twenty-five years of teaching philosophy I have devised and experimented with a number of techniques in the hope of meeting this problem. Before presenting them I should like to state several conclusions to which I have come concerning their use. They are not all adapted to all students; each special technique is determined by the needs and personality of the individual student and by the stage he has reached in the formulation of his own philosophy of life. Not all of them could be called "good" techniques; some of them are so violent as to be somewhat risky, and others look too much like propagandizing to receive unqualified approval. Some of them are suited to general classroom use; others are better adapted to the more intimate relations prevailing during the conference hour. I proceed to discuss these techniques, and I shall give them names which are intended to be descriptive in character.

1. *Confessional technique.*—This is rather a diagnostic than a teaching method. It is designed to tell the instructor how far the student has progressed in the formulation of a philosophy of life and whether such a philosophy—in case the student seems to be definitely committed to it—is one that is likely to prove adequate or should be replaced by an alternative which holds more promise of fulfilling the needs of life. There are many ways of doing this; two of them may be mentioned. One is the simple device of asking the student early in the course to write an essay in which he states his pattern of life in so far as he has formulated it. Most such essays are quite superficial, exhibit inconsistencies, and are extremely vague in terminology. But, in spite of their inadequacies, they provide valuable information about the student, and often they are well thought out and indicate that he understands and feels strongly about the position he is presenting. The other technique is that proposed in the American Council on Education's volume, *Cooperation in General Education.*[3] This is a method in which the student is presented with twenty philosophies of life, expressed in brief statements purporting to indicate their most significant features, and is asked to state a preference when each one of them is compared with each other. Such a device permits the drawing of a "profile" for each student, indicating those philosophies which he tends to favor and those which he tends to reject. It also reveals the degree to which he has thought out his point of view, since if he states that he prefers A to B and B to C and then, later on, indicates that he prefers C to A he has not clarified his philosophy in a manner which seems desirable. Neither of these techniques is infallible in giving information about the student's point of view, because he may profess a philosophy which he doesn't really "live" at all and the philosophy which he claims as his own may not really be such but merely that which is ac-

[2] *Ibid.*, pp. 32–33.

[3] (Washington, 1947), pp. 83–98.

cepted by the social group of which he is a member or that which he thinks would receive the approval of the instructor in the course.

2. *Boomerang technique.*—Here the aim is to show the student how the particular philosophy which he has chosen reacts on him in an undesirable way. One of my colleagues employs this technique in a somewhat novel and effective way. When a student who openly admits a strong racial prejudice hands in a test or a term paper, the instructor may return it with the following comment at the end: "This is really a very good paper, but, since I do not like the color of your eyes, I have recorded a grade of 'F.'" The student usually sees the point. In general, the technique is designed to show the absurdity of extreme positions—that the skeptic who is consistent must doubt even his own skepticism; that the man who believes in *absolute* freedom must allow himself, if he wishes, to be sold into slavery and thus destroy his own freedom; that the advocate of tolerance, in allowing those who are intolerant to gain the upper hand, runs the risk of creating a social situation in which no tolerance is possible; and so on. The technique may even be employed in the case of the student who believes that it is unimportant whether or not he has any philosophy of life, for the judgment that philosophy is unimportant is itself philosophical.

3. *Atom-bomb technique.*—This is a kill-or-cure method applicable only in the case of the student who claims to have adopted a philosophy of life which, on the surface at least, appears to be quite inadequate and which, in any case, he has obviously accepted on utterly irrational grounds. The principle involved is that no one is in a position to adopt a better philosophy of life so long as he already has a worse one; or, in still more general terms, no one is ready to accept truth if his mind is already filled with errors. The method is employed, therefore, to clean house preparatory to new occupancy. Its name is chosen to emphasize that it is primarily a shock technique and must frequently be employed in a severe and cruel manner. The mildest form involves simply arguing against the position which the student has taken. A somewhat more extreme method requires resort to *ad hominem* arguments and frequent use of sarcasm, ridicule, and irony. A special type of *ad baculum* argument has sometimes been proposed as an effective device in situations of this kind, but I am quite convinced that the end would not justify its use. It involves threatening the student with failure in the course unless he abandons the point of view he has taken. However important it may be to drive out the undesirable philosophy, nothing is to be gained if in the process we create the attitude that any philosophy of life is to be accepted or rejected on the basis of immediate rewards or punishments.

4. *Soothing-syrup technique.*—This is designed to attain the same end as the preceding method by a somewhat less violent process. It involves assuming agreement with the student in the point of view he has taken, but the aim is to lead him gradually to see its inadequacies and to shift to a more satisfactory outlook. The approach has much in common with the methods recently advocated in connection with student advising—the so-called "uh-huh" techniques, in which the counselor refrains from asking the student questions or suggesting answers and merely allows him to say what is on his mind. But it differs from the confessional technique in that the instructor attempts by a gradual process, and within the framework of the philosophy of life which the student has adopted, to introduce imaginative situations of greater and greater complexity which are designed to show the need for some modification in the pattern. A commonplace example is the following: A student who is an "absolutist" in morals, believing, say, that lying is *always* wrong, may have his confidence in his

position shaken when he is asked whether a spy is required always to tell the truth, whether a doctor should tell his patient in every case exactly what the prognosis is, whether there is not some justification for "white" lies, and so on. The attitude taken by the instructor is designed to "comfort" the student in the value pattern he has accepted but, at the same time, to convince him that the solution is not so simple as he had supposed. The discovery of borderline cases is always upsetting to one who has adopted a cut-and-dried philosophy of life. The assumption of the soothing-syrup technique is that by some such device as this the student may be led to realize the importance of justifying all his beliefs, both to meet his own growing demands for rationality and to enable him to defend his point of view when he is challenged by others who have a different outlook.

5. *Exposure technique.*—Here the task is merely to inform the student of alternative philosophies through literature, contact with varied art objects, and participation in intellectual, social, moral, and religious situations. Sometimes this can best be done imaginatively, as in the case of literature, and sometimes it is most effectively accomplished by actual experimentation in the living social process (joining student or community groups) and in the dynamics of religious living (church attendance or affiliation with student religious discussion groups). The task here is not to defend or persuade but merely to acquaint the student with the great range of value experiences, some of which have been tried out through the centuries, which are available for selection. Often, as a result of such exposure, the student abandons his original point of view and replaces it by an entirely new one; frequently he merely modifies the earlier one in such a way as to permit the addition of some virtues of the later one; but in any case he learns to appreciate the great value to be derived from the study of an alternative position, since it throws new light on his old outlook and thus contributes to greater understanding. A simple example, in the area of intellectual values, will suffice to make the method clear. Beginning students, who usually accept a very naïve "correspondence" theory of truth, are amazed to learn that mathematicians use the word "truth" in a very different sense, yet the usage seems—when it is properly explained—quite plausible, and they frequently find that their former conception requires modification in view of this discovery.

6. *Honeyed-words technique.*—At this point the task is simply to supplement the exposure technique with various persuasive devices. The ground for the use of such a method is the fact that some commitment to a philosophy is necessary before true understanding can develop; if one is indifferent to a position, he is disinclined to make the effort necessary to think it through. The technique is not easy to employ because it is distinguished only with great difficulty from preaching, on the one hand, and indoctrination, on the other. In general, it is marked off from the former (at least as some preaching is carried on) by placing greater emphasis on intellectual rather than emotional devices and by functioning in the classroom, where logic, at least ideally, is the prevailing spirit, rather than in the church or the cloister, where ceremony and ritual aim to produce a state of mind conducive to unquestioned acceptance. On the other hand, it is distinguished from indoctrination by the mildness and the fairness with which the persuasive devices are employed. True indoctrination seems to involve three methods which are pedagogically completely unjustifiable. First, it either disregards alternative points of view completely or presents them only in the context of strong counterarguments. Second, it finds *no* virtue whatsoever in any of these unapproved positions. Third, it makes the desired value pattern the focus of instruction and uses only positive arguments, i.e., it finds *no* in-

adequacy whatsoever in the approved position. The two important dangers in the honeyed-words technique are that, since young students are gullible, they will easily be induced to accept any point of view which is presented with a certain degree of persuasion and that, since love is blind, a too early commitment to a philosophy of life may prevent the development of the objective attitude which is so necessary for true understanding.

7. *Skirmish technique.*—This is the final technique. It is applicable only when the student has begun to adopt a desirable position and needs to have his conception of it sharpened to the point where he sees both its implications and its difficulties. The method involves taking any point of view which is different from that which he has tentatively adopted and arguing against him. The principle is that he gains in understanding by devising arguments and meeting counterarguments. The technique differs from the atom-bomb technique both in the kind of arguments used by the teacher (*ad hominem* arguments, sarcasm, and ridicule are entirely out of place at this point) and in the fact that the earlier method is designed to shake a student from a point of view firmly accepted on irrational grounds, while this one aims to strengthen his confidence in a position which he has up to the present adopted only tentatively and in an exploratory manner.

8. *Other techniques.*—There are other techniques which are perhaps not important enough to warrant special consideration. One of these is the *watch-me technique,* which is designed to enable the student to learn by imitation. It is more readily applicable to the teaching of skills than to the transmission of value attitudes. Perhaps the best example is that of the philosopher who instills in the student both a love for philosophy and a desire for a philosophy of life simply by standing before him in the classroom and doing a superb job of "philosophizing." In more general terms, any teacher, I should suppose, is inspired by the hope that the devotion which he exhibits in his own pursuit of truth will arouse in the student a similar love for this elusive ideal. Another technique whose name I have not yet found and whose virtue is somewhat questionable except in very unusual circumstances is the one which produces no commitment on the part of the student except the aloofness from all commitment. If we are rational animals (which at times seems very doubtful), the only proper attitude for us to take is one which involves identifying ourselves with no single philosophy, since to the extent to which we are fair-minded we recognize that every design for living has both merits and defects. In view of this fact we ought never to adopt any philosophy, for by doing so we necessarily exclude some alternative point of view which has unquestionable virtues. Hence we are in need of a method which will produce toward all points of view an attitude of objectivity, an openness of mind, and an impartiality of outlook which will permit true rational examination. The only drawback to this attitude of aloofness from all commitment to anything but the principle of rationality itself is that it is hardly a workable philosophy of life. For man lives not merely by understanding but by action, and there is no action which does not involve acceptance of certain nonrational values.

EPISODE, SCENE, SPEECH, AND WORD
THE MADNESS OF LEAR

Norman Maclean

I

IT WOULD, of course, be an exaggeration to say that the history of the story of King Lear is a history of art. Far back of Geoffrey of Monmouth's *Historia regum Britanniae*, in which Lear's story makes its first appearance in literature, is a folk tale of a daughter who angers her father by telling him that she loves him as much as salt,[1] but this story already has shape, although the shape of art in embryo. It is a narrative riddle, depending upon the double meaning of a word; and, when the real meaning is recognized by the father, through some device such as serving him a feast without salt, both the anger of the father and the story dissolve. That the story appears in many variants indicates the universality of its appeal, but the emotions it aroused must have been limited largely to common curiosity in verbal puzzles and the pleasure, not confined to children, of discovering that children are more subtle than their parents. A narrative riddle, then, such as might be added to the collections of the Grimm brothers, is the prototype of the story that Shakespeare transformed into a tragedy. That the history of the Lear story concludes in a consummation of art is testified to by another kind of history, the history of men's literary affections: tragedy, on the whole, has proved to be the most moving of literary forms, and to most critics *King Lear*, although not the most flawless, is the most tragic of Shakespeare's tragedies.

The problem of artistic consummation, being the problem of magnitude in the highest degree, is imperiled by its own scope; but fortunately there is a part of *King Lear* that, by assent, is its most tragic region, the region where suffering takes on such dimension that even Shakespeare could find no better word than "madness" to contain it. Furthermore, since the madness of Lear is almost entirely Shakespeare's invention[2] and is crucial in the transformation of the many stories of King Lear into the only *Tragedie of King Lear*, it brings us face to face with both the tragic art and the tragic artist. Now to speak of a consummate poetic accomplishment is to imply that criticism which views all a writer's problems as unique has overlooked a part of the whole of truth. For, to speak of an artistic attainment as possessing magnitude in the highest degree is to imply the existence of attainments somewhat analogous and in this and that common respect somewhat inferior; it implies either this or the existence of a critic who has some a priori conception of a poem

[1] Wilfrid Perrett, *The Story of King Lear from Geoffrey of Monmouth to Shakespeare* (Berlin, 1904), pp. 9 ff.

[2] "Lear's madness has no place in the old story; it is Shakespeare's own invention" (George Lyman Kittredge, *The Complete Works of Shakespeare* [Boston, 1936], p. 1196). According to Perrett, certain versions of the story contain suggestions of madness (*op. cit.*, pp. 225–26), but these suggestions, as Perrett says, are remote and are limited to phrases (such as "crazed thoughts"), and, moreover, they are probably stereotypes not intended to suggest actual madness, just as we speak only in figurative cliché when we say, "He was mad with rage."

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more wonderful than any yet written, in which case the critic should change to a more wonderful profession and contribute its culminating splendor. For us at least, it is certainly easier and wiser to say that every writer in each particular act of composing faces problems that have various levels of universality, and, if this were not so, we could not recognize any uniqueness he achieved; the chances are we could not even recognize that he had written. In only certain senses, then, does Shakespeare forever elude us and refuse to "abide our question," for, if there are general problems confronting every writer, we should be able to ask questions that Shakespeare, of all men, made no attempt to elude.

At a high level of universality, to write anything well, whether it be intellectual or imaginative, is to assume at least two obligations: to be *intelligible* and to be *interesting*. Intelligibility, too, has its levels of obligation, on the lowest to individual statements, and even on this level the obligation is never easy to fulfil and perhaps even to genius could be a nightmare if what the genius sought to represent was "madness." Only to a limited degree, however, can individual statements be intelligible—and in many instances and for a variety of reasons, the individual statements are meant to be obscure, as in "mad" speeches. Since full intelligibility depends upon the relations of individual statement to individual statement, the concept of intelligibility, fully expanded, includes *order* and *completeness;* for a fully intelligible exposition or poem having relations has parts, and all the parts ought to be there and add up to a whole. The second major obligation, that of being "interesting," includes *unexpectedness* and *suspense;* for expository as well as imaginative writing should not be merely what the reader expected it would be—or why should it be written or read?—and the unexpected should not be immediately and totally announced (in other words, expository and imaginative writing should have suspense), for, if the whole is immediately known, why should the writer or reader proceed further?

But the accomplished writer gives his selected material more than shape—he gives it its proper *size*. For a piece of writing to have its proper size is an excellent thing, or otherwise it would be lacking in *intelligibility* or *interest* or both. Thus, if Lear's anger had been transformed into madness in a single scene, all the odds are that such a transformation would seem beyond belief, and it is just as certain that the play would have died in the memory of men for want of suspense. On the other hand, the madness of Lear could have been drawn at such length that the spectator, like Kent, could not continue to view the suffering or, worse still, until the spectator began to suspect an author was manipulating suffering for suspense—and in either case the spectator would feel that he had seen too much. Moreover, the size of any literary particle is not a matter of quantity only. Every art has ways of making a thing seem bigger or smaller than the space it occupies, as Cordelia is more wonderful by far than the number of lines she utters and is even tragically present when she is tragically absent, and as Lear becomes more gigantic when he can utter only a few lines or broken lines or none at all.

We have come close to the special realm of imaginative or poetic writing, with its special obligations, two of which we shall refer to as *vividness* and *probability*. As poetic writing is the representing or "making" of human experience, so the poet is the writer who possesses the powers and devices that transfer "life" from flesh to words. These possessions of a poet are not merely a knowledge of "life"; Machiavelli knew much about successful and unsuccessful rulers and wrote *The Prince*, and analysts know much about madness and come no closer to *King Lear* than case reports. Shakespeare "made" many rulers, successful and otherwise, and one he "made" mad.

In so far, then, as a poem possesses "life," it has *vividness.* A poem, however, makes not "life" only, but a "world." Hence any of its parts, when related to the others, must seem *probable.* Not any living being may enter *Lear,* and the few who may are severely limited in freedom of thought, speech, and action. What may happen in a poem must be compatible with the general conditions of "existence" as postulated by the poem; and what actually does happen and the order in which it happens must appear as adequately caused by the constitution of the individual characters and the circumstances in which they are placed. The same legendary figure may enter two worlds and in the early Elizabethan play may spell his name "Leir" and survive his misfortunes, but, having ventured upon the thick rotundity of Shakespeare's world, he cannot be saved, and certainly not by the alteration of any neoclassical poet.

In certain ultimate senses the world that is each poem is bound together so that it binds the hearts of those who look upon it, of whom the poet is one. To look upon a poem, then, as distinct from looking upon much of the succession of life, is to be moved, and moved by emotions that, on the whole, attract us to it and are psychologically compatible. All of us, therefore, seem to be asking for less than we expect when we ask that poems have *emotional unity;* but this is so commonly the language of the request that we shall assume it means what we expect it does —that the emotions aroused by any good poem should be psychologically compatible and also of a kind out of which attachments are formed. We may ask for many other things from poems—biographical information or political or theological wisdom—but in making any of these further requests we should recognize that we are asking for what only certain good poems give, and then generally not so well as something else. What is here taken as ultimate in poetry is what is true of all good poems: they give a high order of distinctive pleasures, and it may be said summarily of high and distinctive pleasures that no man seems in danger of exceeding his allotment.

In a way a poet is untroubled about all this—about writing or writing poetry, for these are abstractions that cannot be engaged in, and he is trying to find the first or next word, and after "thick rotundity" he listens to "of" and is troubled, and then hears "o' " and so moves on to other troubles, leaving behind him "the thick rotundity o' th' world." In a way, then, even in a long life a poet never writes poetry—just a few poems; and in this sense a poet's problems do not begin until he closes in upon a piece of paper with something less abstract in mind than writing or writing poetry. He may wish, as many lyric poets have wished, to write a drama or a novel; but the story is so distinct from the lyric that few poets, despite a tendency of poets to be expansive in their ambitions, have been eminent in both poetic arts. Shelley and Keats had a maximum of aspiration but hardly a minimum of gift for plot and character, and even Browning, with his surpassing delineation of men and women in dramatic monologue, could not make anything happen in a drama. Coming closer to the paper on which *King Lear* was written, we also know that to have the characters tell their own story on a stage raises problems very distinct from those required for putting the story between the covers of a novel. It may seem that the distinction between manners of presenting a story is largely classificatory; yet stories are so locked artistically to those selected to tell them that great novels seldom remain great when they are strutted upon the stage, and vice versa. Particular manners of presentation are particular artistic problems, and particular artistic gifts are needed to solve these problems, and, if not, who are those who are both great novelists and great dramatists? And, more particu-

lar still, who among dramatists wrote both great comedies and great tragedies, although tragedy is only drama that moves certain emotions in us? Yet these two dramatic arts are so distinctive that Shakespeare is the single answer to the question of what dramatist eminently possessed both the tragic power and the power of moving us to laughter. Even more specialized, personal, and unique are the problems to be focused on in this study—what confronted Shakespeare and Lear, who stood outside when a storm arose and a daughter ordered a door shut. Mind you, before this particular moment Lear had been a successful king and Shakespeare had written great tragedies, but neither had ventured far into madness.

This was a lonely moment in art, yet the moment that is the poet's moment is not his alone, and his problems that seem highly unique would not even occur if he were not concerned, however secretly and for whatever reasons, in loading each particular vein with what can generally be recognized as ore. It is true, then, that the poet has no real poetic problems in the abstract, and it is also true that he would have no poetic problems at all if each particular moment of art did not have to enter the general world of art, for unattended self-expression is another occupation, altogether lonely.

We propose to follow Lear and Shakespeare across the heath to the fields of Dover on what for both was a unique experience, and then to be even more particular, considering the individual scenes leading to this meeting of Lear and Gloucester when in opposite senses neither could see. And, for smaller particulars, we shall consider an incident from one of these scenes, a speech from this incident, and finally a single word. In this declension of particulars, our problems will be some of those that were Shakespeare's because he was attending Lear and at the same time was on his way toward a consummation in the art of tragic writing.

II

At the end of Act II night has come, an external storm threatens, and an external door is shut; in Act IV, scene 6, Lear, "fantastically dressed with weeds," meets Gloucester and Edgar upon the tranquil fields of Dover, the tempest now a tempest of the mind and at its worst. To view this large expanse of suffering as a single dramatic unit is also to see that, in the form of organic life called a poem, "parts" are "parts" and in certain senses "wholes." By the end of Act II the major external causes of Lear's madness have occurred; by Act IV, scene 6, they have brought Lear to "the sulphurous pit" and unrestrained madness, from which, even in the next scene, he is somewhat "restored." For a variety of reasons, we shall state the unity of this dramatic episode in terms of a change that it brings about in Lear's thoughts and beliefs concerning man, the universe, and the gods, a change in thought that is both a cause and a projection of his madness.

Prior to this episode (and presumably always before it), Lear believed in a universe controlled by divine authority, harmoniously ordered and subordinated in its parts, a harmony reflected in the affairs of men by the presence of political and legal institutions and social and family bonds. Men were the most divinely empowered of divine creations, and the special power of kings was a sign of their special divinity. At the end of this episode (Act IV, scene 6), the world that Lear tells Gloucester he should be able to see even without eyes is one in which man is leveled to a beast and then raised to the most fearful of his kind: the source of man's power, as with the beast's, is sex and self, but above the girdle which the gods inherit is the special gift of reason; only it is a kind of sadistic ingenuity by which man sanctifies his own sins—the universally inevitable sins of sex and self

—by declaring them anathema for others ("Thou rascal beadle, hold thy bloody hand!/Why dost thou lash that whore? Strip thine own back," etc.). Therefore, as king, Lear dismisses the phantom of the adulterer arraigned before him, because, all offending, "none does offend, none—I say none!"

The moment we imagine Shakespeare's pen in our hand and Act III unwritten, we begin to sense the immensity of the problem that arises merely from the first general requirement of all good writing, intelligibility. For the problem is to make clear that the mind of Lear progressively loses its clarity and comes at last to a moment everyone will recognize as "the worst" and be willing to take as "madness." Analogically, what is needed are recognizable circles of the inferno descending to the pit and ways of knowing when the pit has been reached. To present a character becoming more and more disintegrated emotionally, therefore, is fundamental, but not enough, since emotions under pressure lack outline and precision, with the result that the best of lyric poets know their task is to find "objective correlatives" for what otherwise would remain in prison or confusion. In the next section, dealing with the scenes leading to Lear's madness, we shall see how Shakespeare uses actions, which are more discernible than emotions, to mark the descent into the pit; here we are concerned with the fact that Shakespeare added "thought" to action and emotion, and "thought" in many ways is more precise than either of the other two. In solving this problem of intelligibility, then, Shakespeare was "abundant," utilizing the maximum of means, and one way we have of knowing at what circle Lear is stationed for the moment is to learn what Lear for the moment believes is the nature of men, beasts, and gods.

When intelligibility was first discussed, it was expanded to include the concepts of order and completeness. Order, being a matter involving all the parts, is a matter for later consideration, but we may observe already that the change in Lear's thought during this large episode is a complete change. Lear does not have merely different thoughts about the nature of the universe and of those who crawl upon it; the beliefs he has about the universe at the end of Act II are philosophically opposite to those he expresses upon the fields of Dover, and a complete change is one that goes as far as it can. Thus, because the change in Lear's thought is so bitterly complete, we recognize the pit when Lear has reached it. Shakespeare also took care that we should know where Lear started. Lear's last speech in Act II is the first one he gives in which thought of a general nature is directly expressed; it is appropriate to his character and the accumulated situation that at this moment he should say man is not man without some gorgeous possessions not needed to keep his body warm, and the speech is also a location-point before the heath by means of which we can more easily see what a falling-off there was.

Ultimately, however, it is of only secondary importance that Lear's thoughts clarify our understanding; they lack the power of poetry if they are not moving. Let us begin less intensely, and therefore with the second requirement of all good writing, to be interesting, for if we are not interested we surely will not go further and be moved. Until his last speech in Act II, Lear's thoughts have all been particular and have been concentrated upon the individual natures of his daughters and their husbands. This is appropriate to the circumstances and Lear's character, which is driven rather than given to philosophical speculation; yet partly as a result Lear is a character, even by the end of Act II, with whom we have only slight bonds of identification; he is an old man over eighty years who so late as this is in the process of discovering that two of his daughters are nonhuman and that the one who could say "nothing" was alone worthy of all his

love. In contrast to *Hamlet* and *Othello*, *King Lear* is a tragedy in the course of which the protagonist becomes worthy of being a tragic hero, and one dimension that Lear takes on is the power of thought. Moreover, his thoughts upon the heath and upon the fields of Dover are of universal significance and therefore "interest" us, for the question of whether the universe is something like what Lear hoped it was or very close to what he feared it was, is still, tragically, the current question.

Earlier we said that material of general, human interest could be handled by an artist in such a way as to take on an added interest—the interest of the unexpected or surprising. It is surprising in life or in literature for a serious man to reverse his philosophical beliefs about the common human problems, but Lear's change in thought is dramatically as well as philosophically unexpected, for the beliefs that have become the protagonist's by Act IV, scene 6, are his antagonists'—Goneril's, Regan's, and Edmund's—who also hold that sex and self are the sole laws of life. Lear has indeed "veered round to the opposite"; it is as if the tortured came to have the same opinion of the rack as the inquisitors.

There is, finally, the contribution that this change makes to the special emotional effects produced by tragedy. Now the tragic writer is also upon the rack, pulled always two different ways, for the deep emotions he stirs he also alleviates. A certain alleviation of fear and pity is necessary to make the emotional effect of tragedy one that we are consumed rather than repelled by; and proper tragic alleviation excludes any supposed consolation that might come from the avoidance of disastrous consequences after we have been asked to suffer emotions such as are aroused by clear premonition of disaster.

By the time that we and Edgar are confronted with the "side-piercing sight" upon the field of Dover, the grounds are many for fearing that Lear and all that is admirable are condemned by some hopelessly formidable perversity of power ultimately beyond challenge. Othello's fate was his own—at least many of us could have escaped it; but Lear's tragedy comes to a point where it threatens what we should wish to be with inevitable inclusion. As a very minimum, we know suffering such as the sufferer can account for only by believing the worst that can be thought of everything, including himself. The minimum, therefore, has some kind of maximum of fear and pity—we are almost certain that such suffering will leave him without the power to better his fortune and without the mental resources needed to gain a clear picture of what is the truth, if this is not it. And, indeed, in the end Lear is deprived of Othello's modicum of consolation—that of seeing the situation as it was—for he is not even permitted to believe that he and Cordelia can be God's spies (pitiful, imprisoned spectators of a conspiratorial universe), since in the same scene the role of a nonparticipant in the universe proves to be nonexistent, Cordelia is murdered, and the mind and body of Lear are asked to suffer no further vexation.

We perhaps do not think sufficiently of the other task of the poet who makes intense emotions—the task of constantly taking away something from them lest they become intolerable or change to some other emotions not intended or desirable, just as the unrestrained grief of Laertes at the grave of Ophelia produced contempt and indignation and not compassion in the heart of Hamlet. Our fear and pity for Lear are both magnified and mitigated. These terrifying thoughts are held by him when he is mad, and their validity is further denied by all those in the play who are intelligent, loving, and somewhat disengaged—their complete validity is called into question even by the existence of people such as Kent, Edgar, and Albany. In addition, the action is arranged from beginning to end (that is, from the beginning of Act III

to Act IV, scene 6) in such ways that fear does not become horror, or pity some kind of excruciating anguish. In the first scene in Act III, before we see Lear on the heath, we are given subdued assurance that friends are organizing to rescue him and the kingdom. This scene can be criticized for its execution, because it is a scene merely of talk between Kent and a Gentleman whose talk is obviously directed to us as much as to themselves, but the intention to save us from horror is right. Moreover, throughout the scenes leading to Lear's madness there are continuing preparations to remove him to Cordelia, and, oppositely, the intervening actions of the antagonists do not make their complete success probable, for Cornwall is killed, Albany becomes disillusioned, and jealousy turns Goneril and Regan upon themselves. And, finally, although scene 6 is constructed to magnify our fear and pity by confronting us with both Gloucester and Lear and their combined anguish, it is also designed to alleviate our suffering and serves as a superlative example of the paradoxical task of the tragic artist. The thoughts to be expressed by Lear upon the fields were Gloucester's as he approached the cliffs of Dover ("As flies to wanton boys are we to th' gods./They kill us for their sport"), but Gloucester has been purged of these thoughts just prior to Lear's expression of them, and, since Lear and Gloucester have been made parallel in so many ways, one might assume that Shakespeare had constructed this scene to assure the beholder that the beliefs he is about to hear from Lear are not the final beliefs of either. We must recognize, however, that a certain number of critics read *King Lear* in such a way that Gloucester's lines are taken as a condensation of Gloucester's and Lear's and Shakespeare's ultimate "philosophy," although this seems to me to be an interpretation of another book, possibly one written by Hardy. Surely, though, by the end of the scene, if our feelings and the creator do not deceive us, the world is such as to make a man a man of salt—but for purposes more magnificent than the laying of autumn's dust.

III

So far our view of *King Lear* has been both panoramic and confined. In looking upon the large expanse of lines from the end of Act II to Act IV, scene 6, we have confined ourselves to the reversal in Lear's thoughts and feelings that occurs therein and makes it a single, though large, tragic episode. Lear and Shakespeare had conceptions of the tragic that mark them as men who saw "feelingly"; but, as a dramatist, Shakespeare had his own set of dismaying problems, the dramatic problems of objectifying tragic thoughts and feelings into commensurate actions and then of dividing and arranging these actions into parts which would be themselves little tragedies and yet stations on the way to some more ultimate suffering. In making these problems ours, we become more particular and yet in certain ways closer to the general qualities of great writing which, in order to have a name, must also have a local habitation.

Many a tragic drama has itself met a tragic ending for lack of drama, and the odds increase that this will be the case when the tragedy in some central way involves internal changes, changes in thoughts and states of mind. Byron, too, wished to depict a soul in torment, and he produced *Manfred*, but, despite the subtitle, *A Dramatic Poem*, it is largely a series of soliloquies addressed to the Alps in inclement weather. Drama is movement, and in the four scenes depicting the increasing tempest in Lear's mind, the stage is also in flux—the actors on it move naturally and interestingly, and other characters enter mysteriously and leave on secret missions. Moreover, these actions are designed not merely to keep the stage from becoming static while everything else is dynamic; they are in a higher sense dramatic actions, actions involving an *agon*, "objective correlatives"

to the conflict in Lear's mind. Lear challenges the storm; he arraigns his daughters before a justice so perverted that it is represented by the Fool and Edgar disguised as a madman; he imagines impotently that he is raising an avenging army and is distracted by a mouse, and assumes he is judging a culprit guilty of adultery and finds no sin because he finds the sin universal. Such are the inventions of a dramatic poet, and by them he makes the passage of Lear's tortured soul intelligible, probable, and tragically moving. Scholars are still in search of the exact meaning of certain speeches in each of Shakespeare's great tragedies—and we should like to assume that those who saw these plays for the first time did not have perfect understanding of all the lines—but so great was Shakespeare's power to conceive of action from which thought and feeling can be readily inferred that all of us know Lear, Hamlet, and Macbeth more intimately than we know many men whose remarks we understand perfectly.

Yet a master of tragic drama would also sense that, in scenes depicting a great change in thought and state of mind, action should be kept to a certain minimum lest too much outer clangor obscure the inner vibrations and tragedy pass over into melodrama. He would sense, too, that language suggesting madness, if sufficiently understood, would put tremendous demands upon our powers of concentration. Three scenes lead to the madness of Lear and are alternated with three leading to the blinding of Gloucester. Unlike the "internal" Lear scenes, the other three are action cut-to-the-bone; and, unlike the clogged language of Lear, the Fool, and Poor Tom, the speech of the conspiracy is lean, bare, and cruel. Removing us momentarily from Lear, these scenes relieve both our understandings and our feelings, but tragic "relief" quickly becomes tragic illusion, when the master-touch is upon it. We turn our eyes away from an old man seeking in suffering to discover the final cause of suffering, only to have it dawn on us that we have turned to a horrible replica of the action that was the immediate cause of this suffering, another old man tortured by his offspring and by Lear's as well. Suffering, then, as it works out its lonely and final course upon the heath, is combined with action such as initiated it. Moreover, in another way the two tragedies are one—Gloucester's attempts to rescue Lear from his suffering are the immediate cause of bringing on his own. Thus the interplay of these two tragedies gives to both more than either singly possesses of intelligibility, suspense, probability, and tragic concern.

But, although Gloucester's tragedy is also Lear's, our concentration is upon those scenes in which Lear goes mad and which collectively make intelligible the scene upon the fields of Dover, where his madness is complete. It is not enough, therefore, that action in these scenes is kept at a certain minimum and within this guarded minimum is maximal or that the action also is dramatic, involving conflict. It also has to be action everywhere suggesting "madness," and, secondly, it has to be arranged in such a way as to lead Lear to "madness." Let us consider first the materials and then the order out of which such disorder is made.

Certainly, Shakespeare's choice was right in introducing no totally new material into these scenes that center in the depth of Lear's mind; they are made out of materials already in the play—Lear's Fool, Edgar who previously had decided to disguise himself as a madman, and the storm. Distraction that is great and is not the general confusion of a battle but centered and ultimately internal is rightly made out of a certain minimum of material that can be assimilated and out of material already somewhat assimilated. Moreover, such a reduction of material not only helps our understanding at a moment in literature when it stands most in need of help; actually, art attains the maximum of unexpectedness out of restricted sources (as a good mystery story

limits the number of possible murderers) and out of material already introduced and about which we have expectations (as the best mystery stories are not solved by material that has been kept from us by the detective and the writer until the end). While on the heath, Lear might have been attacked by a gang of robbers and, in culminating suffering, have thought this some symbolic act, signifying that all men are beasts or prey; surely it is much more surprising that it is the legitimate son of Gloucester, counterpart of Cordelia, who makes him think this.

Out of a proper economy of material, then, a maximum of madness is made, and everyone who has read *King Lear* has sensed that the heath scenes are composed of complex variations upon the theme of madness—a noble man going mad, accompanied by a character professionally not "normal," meeting a character whose life depends upon his appearing mad, amid a storm such as makes everyone believe that the universe and even the gods are not stable. We add that Kent, too, is present in these scenes and that a point constantly calm is useful in the art of making madness.

The musical analogy of a theme in variations must be used only up to a certain point and then dropped, lest it stop us, as it has stopped some others, from going further and seeing that these scenes are a part of a great poem and that in this part a noble man goes mad, which is something more than orchestration, although orchestration has its purposes. Ultimately, we are confronted with a poetical event; and the storm, the Fool, and Poor Tom are not only variations on madness but happenings on the way which collectively constitute the event. That is, the setting and two characters, all previously somewhat external to Lear, successively become objects of his thought and then become himself transubstantiated. The storm becomes the tempest in his mind; the Fool becomes all wretches who can feel, of whom Lear is one, although before he had not recognized any such wide identity; and then a worse wretch appears, seemingly mad, protected against the universe by a blanket, scarred by his own wounds, and concentrating upon his own vermin. He is "the thing itself," a "forked animal," with whom Lear identifies his own substance by tearing off his clothes, which are now misleading. We know Lear, then, by Lear's other substances, which are dramatically visible.

There is another substance present with Lear, for the madness that comes upon him is more terrible than the madness that translates everything into the ego; in the mind of Lear when his madness is complete all substances—the universe, man, and Lear himself—have been translated into the substance of his daughters, and perhaps something like this is what is professionally meant by a "fixation." Although actually never appearing, Lear's daughters are the central characters in the inverted and internal pilgrim's progress that occurs upon the heath, and ultimately we know the stage of Lear's progress by his daughters' presence. In the first appearance of Lear upon the heath (Act III, scene 2), the daughters are already identified with the storm and the underlying powers of the universe, and Lear dares to defy them and to confront the universe, even though he now sees what he began to see at the end of Act II, that the ultimate powers may not be moral but in alliance with his daughters. Either possibility, however, he can face with defiance: in his first great speech to the storm he calls upon it, as he had called upon the universe before, to act as a moral agent to exterminate even the molds of ingratitude; his second speech is one of moral outrage ("O! O! 'tis foul!") against universal forces that may have joined "two pernicious daughters" in a conspiracy against his head. In the beginning of his next scene (scene 4), he has still the power of defiance, but it is only the storm as a storm that he can confront; he knows that he no longer dares to think of his daughters, for "that way mad-

ness lies." Almost at that moment Poor Tom emerges from the hovel, and with him in Lear's mind another substance ("Hast thou given all to thy two daughters, and art thou come to this?"). The shattering of the resolution not to think on this substance leads Lear down the predicted way, and first to a complete identification with a mad beggar; then his mind, rapidly disintegrating, leaves equality behind and, in deferential hallucination, transforms the mad beggar into a philosopher of whom Lear asks the ancient philosophical question, "What is the cause of thunder?" At the end of this scene, then, Lear's thoughts return to the storm, but it is no longer a storm that he might possibly endure. By many signs is Lear's final scene in Act III the final scene on Lear's way to madness. Poor Tom places Lear's mind in the underworld with his opening speech: "Frateretto calls me, and tells me Nero is an angler in the lake of darkness. Pray, innocent, and beware the foul fiend." With this speech, Lear's thoughts literally enter the pit, and here he finds the forbidden women. What at the opening of the earlier scene he knew he must avoid now becomes his total occupation, and the mind now revels in what the mind once knew it could not endure. Elaborately and in elation Lear arraigns his daughters upon the shores of the lake of darkness,[3] and, just before drawing the curtain, he asks the final philosophical question, "Is there any cause in nature that makes these hard hearts?"

It is later, properly much later, when we see Lear again, since by then he has found in madness an answer to the questions that led him there. Then, looming upon his mind, is a universe the basic substance of which is female:

> Down from the waist they are Centaurs,
> Though women all above.
> But to the girdle do the gods inherit,
> Beneath is all the fiend's [IV, 6, 126–29].[4]

In the opening of this section we promised to say something about these scenes as being tragic wholes as well as parts of a fearful and pitiful event, and already a good deal has been said indirectly about their separate natures. But their natures are not only separate; they are tragic, each one arousing, and then to a degree purging, the emotions of fear and pity. In the first of these scenes our immediate fear and pity for Lear as we see him trying to outface the elements are intensified by his second address to the storm, in which he realizes that the universe may be allied with his daughters "'gainst a head/So old and white as this!" But shortly Kent enters, and that makes things somewhat better; then Lear has an insight into the nature of his own sins; and, although his sins are pitifully small by comparison, still self-awareness of sin is a good, no matter the degree or the consequences—and it is a good to Lear, purging his feelings so that at the end of this little tragedy he turns to the Fool in new tenderness and in a new role, for the first time considering someone else's feelings before his own ("How dost, my boy? Art cold?/I am cold myself"). And such in a general way is the emotional movement of the other two scenes in which Lear appears in Act III—they begin with Lear alarmingly agitated; the agitation mounts (with the appearance of Poor Tom or with the pros-

[3] In the Folio, Lear's arraignment of his daughters is omitted (ll. 18–59 in Kittredge). The Folio also omits Edgar's soliloquy concluding the scene. The Folio is far more accurate in editorial detail than the Quarto but is considerably shorter, most scholars surmising that it represents a version of the play that had been cut for acting purposes. As dramatic magnifications of states of mind and feelings already embodied in the play, both Lear's arraignment of his daughters and Edgar's soliloquy are made of material that is often cut if a cutting has to be made for stage purposes. Certainly, it is not difficult to understand the omission of the soliloquy, but the deletion of the trial upon the edge of hell removes from the scene a tremendous amount of its drama and tragedy.

[4] All quotations from Shakespeare, unless otherwise specified, are taken from Kittredge's *The Complete Works of Shakespeare.*

pect of arraigning his daughters in hell); but in the enactment of the enormous moment he (and we) get some kind of emotional release, for which undoubtedly there is some clinical term not, however, known to me or to the Elizabethans or to most people who have felt that at the end of each of these scenes both they and Lear have been given mercifully an instant not untouched with serenity on the progress to chaos. "Draw the curtains. So, so, so."

There are many tragedies of considerable magnitude the effects of which, however, are almost solely macrocosmic. The greatest of tragic writers built his macrocosms out of tragedy upon tragedy upon tragedy.

IV

The third time that we shall consider Lear upon the heath will be the last, for the full art of tragedy has three dimensions, like anything with depth. The tragedy with depth is compounded out of a profound conception of what is tragic and out of action tragically bent, with characters commensurate to the concept and the act—and, finally, it is composed out of writing. The maximal statement of an art always makes it easier to see how many lesser artists there are and why; and thus the author of *The American Tragedy* could not write—a failing not uncommon among authors—and the author of *Manfred,* although a very great writer in many ways, was so concentrated upon his personal difficulties that he could form no clear and large conception of the tragic, and his tragic action is almost no action at all.

In addition to the remaining problem of writing, one of the general criteria, introduced early in this essay, has not yet been dealt with directly—vividness, or the powers and devices that make a literary moment "come to life." For a consideration of both, we need units smaller even than scenes, and so we turn to what may be regarded as a small "incident" in one of the scenes and finally to a speech from this incident and a single word from the speech. It is easy to understand why the moments of a drama usually singled out for discussion are those that are obviously important and splendid with a kind of splendor that gives them an existence separate from their dramatic context, like passages of Longinian sublimity; but this study is so committed to the tragic drama that it will forego the sublime—although few dramas offer more examples of it—and concentrate instead upon an incident and a speech, the importance and splendor of which appear largely as one sees a tragic drama unfold about them.

On a technical level, this incident is a unit because it is a piece of dramatic business—in these lines, Shakespeare is engaged in the business of introducing a character:

KENT: Good my lord, enter here.
LEAR: Prithee go in thyself; seek thine own ease.
This tempest will not give me leave to ponder
On things would hurt me more. But I'll go in.
[*To the Fool*]
In, boy; go first.—You houseless poverty—
Nay, get thee in. I'll pray, and then I'll sleep.
Exit [*Fool*].
Poor naked wretches, wheresoe'er you are,
That bide the pelting of this pitiless storm,
How shall your houseless heads and unfed sides,
Your loop'd and window'd raggedness, defend you
From seasons such as these? O, I have ta'en
Too little care of this! Take physic, pomp;
Expose thyself to feel what wretches feel,
That thou mayst shake the superflux to them
And show the heavens more just.
EDG. [*within*]: Fathom and half, fathom and half! Poor Tom!

Enter *Fool* [from the hovel].

FOOL: Come not in here, nuncle, here's a spirit. Help me, help me!

KENT: Give me thy hand. Who's there?

FOOL: A spirit, a spirit! He says his name's poor Tom.

KENT: What art thou that dost grumble there i' th' straw? Come forth.

Enter *Edgar* [disguised as a madman].

EDG.: Away! the foul fiend follows me! Through the sharp hawthorn blows the cold wind. Humh! go to thy cold bed, and warm thee.

LEAR: Hast thou given all to thy two daughters, and are thou come to this?

EDG.: Who gives anything to poor Tom? whom the foul fiend hath led through fire and through flame, through ford and whirlpool, o'er bog and quagmire; that hath laid knives under his pillow and halters in his pew, set ratsbane by his porridge, made him proud of heart, to ride on a bay trotting horse over four-inch'd bridges, to course his own shadow for a traitor. Bless thy five wits! Tom's acold. O, do de, do de, do de. Bless thee from whirlwinds, star-blasting, and taking! Do poor Tom some charity, whom the foul fiend vexes. There could I have him now—and there—and there again—and there!

Storm still [III, 4, 22–64]

Now the business of introducing a character can be transacted quickly in brackets—[Enter *Edgar*, disguised as a madman]—and when the character is some straggler in the play or not so much a character as some expository information, like a messenger, then the introduction properly can be cursory. But in the drama of Lear's madness, Poor Tom becomes "the thing itself," and the mere size of his introduction is a preparation for his importance. And artistic size, as we said earlier, has qualitative as well as quantitative aspects.

From the time Poor Tom first speaks until the end of this passage, his name is given five times, and it is given the first time he speaks. Yet the complete introduction does more than fasten on a name especially if the person is distinctive and we should be warned about him. Three times before Poor Tom appears, he is said to be a "spirit," and after he appears he says three times that "the foul fiend" is pursuing him, so that, leaving out for the moment his confirmatory actions and speeches, we surely ought to be forewarned by his introduction that he is "mad." It is not always needful to be so elaborate and repetitive, even when introducing a character of importance, but when, in addition, the moment of introduction is tense emotionally and the character is abnormal, we are grateful, even in life, to have the name repeated. Or, if confirmation is sought from literature, we may turn to the opening of the first scene of *Hamlet* and note how many times in the excitement the names of Bernardo, Marcellus, and Horatio are called back and forth, and how often the ghost is referred to before he appears. This introduction, then, has one of the qualities of all good writing, intelligibility, and in circumstances not favorable to understanding.

Moreover, this is an introduction achieving a maximum of unexpectedness and suspense, effects desirable in themselves as well as qualitative signs that the character being introduced is dramatically important. The king is about to escape from the storm into the hovel, but, before doing so, he turns to the heavens with a prayer in behalf of all "poor naked wretches." Not from above but from within the hovel a supernatural voice cries out, "Fathom and half!" If a lesser pen had turned Poor Tom loose upon the stage at this moment with no further identification, we should have been dismayed, and, furthermore, the suspense latent in the unexpected would not have been realized. When he does come forth, we have identified and awaited him, but unexpectedly and in consternation Lear identifies him—identifies him as himself. Then, surely, it is unexpected that the *alter* Lear goes into the singsong of a mad beggar whining for a handout.

As merely unexpected, the entry of Poor Tom is a diversion and serves a

purpose, that of momentarily affording us much needed relief. The art of tragic relief is itself worth a study, although all its highest manifestations are governed by two conjoined principles—the moment of relief should be psychologically needed, but the moment of relief should be a momentary illusion which, as it is dispelled, only deepens the tragedy. Mere unexpectedness thus becomes consummate unexpectedness, with what seems to be a turning from tragedy an entry into darker recesses; and the entry of Poor Tom, viewed first as a piece of technical business, is the appearance of greater tragedy. Lear's prayer, among its many dramatic reasons for being, is preparation for the appearance of something worse. The audience, after it becomes confident in its author, quietly assumes that, when something big is said and something big immediately follows, there is a connection between the two, although not too pat—as Shakespeare himself said earlier in *King Lear,* the entry should not be so pat as "the catastrophe of the old comedy" (I, 2, 145–47). The prayer comes out of suffering, which has identified Lear with the Fool and with a whole class whose feelings before were unknown to Lear, "poor naked wretches, wheresoe'er you are." And "wheresoe'er" might unexpectedly be within the hovel at hand, which was to be a refuge from suffering, and the wretch who emerges, poorer and more naked than the Fool, might be fraught with greater suffering. "Fathom and half, fathom and half!" he has called from within, and this is certainly a mysterious cry and, in the circumstances, not a rational utterance, but it is also a sounding of depth. Of the two tragic emotions, it is fear that is aroused by this cry, and it is fear that sends the Fool running out of the hovel, and it is at least in alarm, a diminutive of fear, that Kent commands the "spirit" to come forth. Then Lear's tragic complement appears, and almost in the next moment the pity aroused by the sight of unprotected madness is transposed to the object about which pity should be centered in a tragedy—the tragic protagonist, who in startled compassion asks the new thing if the two of them are not identical in substance. Poor Tom's answer to the tragic question, on the surface and at first, seems no answer at all, but what nevertheless might be expected of a mad beggar, a routine whine for alms, a routine that one of the most ancient professions has invariably divided into two parts, first a self-commiserating account of the beggar's own suffering and then a prayer that the possible giver be spared any such suffering, the prayer being, as it were, anticipatory repayment which, by implication, can be taken back and changed to a curse. Surely the art of panhandling here comes to life, and literary moments that come to life have been called "vivid." But it is Shakespeare's art, referred to by so many as "abundant," to make two moments come to life in one, and, from a mad beggar's routine emerges an answer to Lear's question and hence a moment filled with tragedy and latent with tragedy to come. As Poor Tom's account of himself proceeds, it becomes apparent, although not to Edgar, that he is describing Lear and his own father. At first, the multiple identification is scarcely noticeable, since it depends only upon similarity in immediate and outer circumstances—others besides Poor Tom are led through fire and flood. Then the similarity becomes both more inclusive and deeper as tragic flaws and tragic courses of action become parallel—Lear and Gloucester in pride of heart are also trotting over four-inched bridges and coursing their own shadows for traitors. And, since the prayer for the possible almsgivers that immediately follows ("Bless thy five wits! . . . Bless thee from whirlwinds, star-blasting, and taking!") approaches the tragic ultimate in vain request, perhaps enough has been said about the introduction of "such a fellow" as was to make both his father and Lear think "a man a worm."

V

Given the confines of this paper, the speech to be considered must be short, for the focus finally is upon the smallest unit of drama—a speech—and the smallest unit of speech—a single word. Moreover, given our other commitments, the speech should also be in essence dramatic and tragic. Let us take, then, the speech in which Lear first recognizes his identity with unprotected nakedness scarred with self-inflicted wounds:

> Hast thou given all to thy two daughters, and art thou come to this?[5]

This is not one of those speeches, somewhat detachable as sententious utterances or lyric poems from which are collected *The Beauties of Shakespeare*, yet upon the heath it is one of the enormous moments. It is tragic drama contracted to its essences—fear and pity. It is asked in consternation and commiseration; and it arouses in us, who are more aware of implications than Lear, fear and pity in some ways more enormous than his.

These two qualities of the speech—its shortness and its enormousness—at the outset may be considered somewhat separate and paradoxical qualities. The speech is short not only in over-all measurement but in the individual words composing it, for all of them, with the exception of "given" and "daughters," are monosyllables, and all of them are short qualitatively, being ordinary, colorless words. Of conceivable adjectives that could be attached to the daughters who had brought Lear to this place, none could be more simple, neutral, or needless seemingly than the number "two." What, if anything, can be said of such a complete contraction of language? Well, as a simple beginning, it is easy to understand, and the moment demands understanding. Then, too, merely as language it is unexpected. In forty-odd lines called an incident, there are the "superflux" of prayer, the eerie cry of Poor Tom, the scurrying prose of the Fool and Kent, the singsong and shivering rhythms of Poor Tom that rise into an actual line of song—and then this, to be answered by a long beggar's whine, colorful but seemingly confused, since the speaker, as announced, is from Bedlam. This is a great deal of dramatic dialogue for forty lines and perhaps might be contrasted to certain modern schools of writers who have found the essence of drama and reality to be an iteration and reiteration of monosyllables. But Shakespeare's contractions are not exhaustions of his language, which was almost limitless in its resources. Ultimately, the kind of verbal contraction here being considered is right because the immediate moment of tragic impact is a contraction—abdominal, in the throat, in the mind which is impaled upon a point. The vast tragic speeches of Shakespeare are anticipations of impending tragedy or assimilations of the event after its impact, like scar tissue after the wound. Thus every appearance of the ghost in the first act of *Hamlet*, being awaited, is immediately preceded by a long, imaginatively unbounded speech, but, when the ghost reveals his tragedy, his son, who makes many long speeches, can only exclaim, "O my prophetic soul!/My uncle?" Othello enters Desdemona's chamber with a culmination of tragic resolutions, and his opening speech ("It is the cause," etc.) has the magnitude of his fears and his resolutions, but he has no speech, not always even complete sentences, with which to answer the prayers of Desdemona, and her last prayer that she be allowed to pray he answers with the ultimate words, "It is too late." In Shakespeare, as in life, the instances are many that the enormous moment, precisely at its moment, contracts body, mind, and utterance.

[5] The Folio reads: "Dids't thou give all to thy Daughters? And art thou come to this?" We shall analyze the speech as it is given in our text and as it appeared in the first Quarto. Although in several particulars the Folio has contracted the first half of the question, an analysis of either version of the speech would be substantially the same.

From life, however, come only the suggestions for art's patterns, not art's final accomplishments. Specifically, life makes it right that Lear's speech at this moment is not a "speech"; yet art demands that no moment of such import call forth, as it often does in life, some truly little, inadequate response. It is the task of the artist to give the enormous its proper dimensions, even if, as in this instance, the illusion has to be preserved that only some little thing was said. Our task, therefore, is to look again at these few, short, ordinary words to see how they add up to what our feelings tell us is something very big. Here, as elsewhere, there can be but the suggestion of a complete analysis; and, in respect to words, the accomplished writer lifts this one and this one and this one and listens to both sound and significance.

Rhythmically and metrically, Lear has asked a tremendous question. Its return to iambic rhythm after twelve lines of mad cries and scurrying conversation should in itself encourage the actor to add some dimension to its delivery, and metrically it is seven feet, for, although there is a pause after the fourth foot ("two daughters"), it is all inclosed within a question, and the second part ("and art thou come to this?") mounts above the first. A seven-foot mounting question is a big question. Moreover, the fact that the words, with two exceptions, are monosyllables, gives them collectively a pounding effect, especially when they are blocked by so many dentals, only three of the fourteen words being without *d*, *t*, or *th*, and these ("given all" and "come") stand out as it were by their phonetic displacement, two of them being the verbs and "all" being probably more important than either. The fourth foot ("two daughters") has also properly been lengthened, "daughters" being terminal to the first half of the question and being, in addition, the largest word uttered. Rhythm, too, makes this foot speak out, for only a schoolboy would scan it as a foot with a feminine ending ("tw̆o daúgh tĕrs"); although no one seemingly can be sure how "daughters" was pronounced at this time, anyone ought to be sure that in this place the second syllable of "daughters" gets as much emphasis as the first and the whole foot is as long roughly as this scansion ("t͞wo daúgh tĕrs").

Grammatical mode of utterance brings us closer to significance. Some dimension, some significance, goes out of the speech if it is not a question but a declaration: "Thou gavest all to thy two daughters, and now art come to this." Gone is some of the immediacy of the moment, too big at its occurrence to be believed and recorded as fact. To a degree, then, fear and pity are made out of grammar, and, if we say that each point so far discussed is a little matter and singly is no great accomplishment, then all we have said is that much of art is composed of little brush-strokes and that this is especially true when what is being composed is "the seemingly simple."

Yet there is one big word within this speech, the one right word, the one word that is not a touching-up of another word which could itself have remained without the notice of after-times. The right word is also in the right place; it is the last word, "this." Perhaps we are accustomed to thinking of the *mot juste* as a word giving a definite, irreplaceable image, and certainly *the* right word should be irreplaceable and in some sense definite; only there are moments so tremendous that their exact size is without any definite boundary. There are moments, moreover, which have a size that is unmentionable, moments which cannot, at least at the instant, be fully faced or exactly spoken of by those who must endure them. Poetry may make a perfection out of an expository error, and moments such as these may set at naught the rule of composition teachers that "such," "it," and "this" should not be used without a definite, grammatical antecedent. Likewise, what has been said about "this" has a relevance to "all" in the first part of the

question that is for this moment the exact question:

> Hast thou given *all* to thy two daughters,
> And art thou come to *this*?

There is always a test that should be made of such matters—can we, after searching, find something at least as good? The test does not always lead to humiliation, and always it should lead to some improvement of ourselves, but the most rigorous test of Shakespeare is Shakespeare himself. Marcellus' first question to Bernardo, both of whom have twice seen the ghost, is the forced mention of the enormous and unmentionable: "What, has this *thing* appear'd again tonight?" The ghost of Hamlet's father, as it is awaited, is "this thing," "this dreaded sight," "this apparition," sometimes "it," more often "'t," but never the ghost of Hamlet's father. In the first soliloquy Hamlet's thoughts move past the canons of the Everlasting, past the general unprofitable uses of the world, until they come to the loathsome point focal to his whole universe: "*That it should come to this!*/But two months dead! Nay, not so much, not two." So a second time in Shakespeare we have "come to this." And at the end Hamlet comes to his own tragic moment which he believes cannot be avoided: "If it be now, 'tis not to come; if it be not to come, it will be now; if it be not now, yet it will come: the readiness is all." In themselves, "it," "to come," "be," "will," and "all" are some of the smallest, least precise and colorful words in our language; but words are so important that from the least of them can be made the uttermost in meaning and emotion—the suffering of man triumphed over by some slight touch of serenity. "Let be."

RHETORIC—OLD AND NEW

Kenneth Burke

On the assumption that writing and the criticism of writing have an area in common, this statement is offered in the hopes that, though presented from the standpoint of literary criticism, it may be found relevant to the teaching of communication.

Let us, as a conceit, imagine a dialogue between two characters: "Studiosus" and "Neurosis." Studiosus would be somewhat of a misnomer for the first figure, who represents a not very interested member of a freshman class taking a required course in composition; and Neurosis would be his teacher. Studiosus has complained bitterly of the work which the course requires of him, whereupon Neurosis delivers a passionate oration in defense of his subject (naturally without mention of a flitting fantasy he sometimes entertains, according to which he has been granted some *other* cross to bear).

Imagining his apology, we found it falling into three stages, that corresponded roughly to an Inferno, a Purgatorio, and a Paradiso. First would be an account of the abysmal problems that beset the use of language. Next would come a movement of transition, whereby the very sources of lamentation could, if beheld from a different angle, be transformed into the promissory. This would be the purgatorial stage. And, despite the mournfulness of our times, a glorious paradisiac ending seemed feasible, if we did a certain amount of contriving—but let us put off for a bit the description of this third stage, while we prepare for it by first giving the broad outlines of the other two.

The first stage would stress the great deceptions of speech. As with Baudelaire's sonnet on "Correspondences," it would note how men wander through "forests of symbols." Man a symbol-using animal. Expatiate on the fog of words through which we stumble, perhaps adding an image (the dog and the waterfall heard enigmatically beyond the mist). Here we would consider the problems of news: the *necessary* inadequacy of the report, even in the case of the *best* reporting; the bungling nature of the medium; the great bureaucratic dinosaurs of news-collecting; the added risks that arise from the *dramatic* aspects of news. (And to get a glimpse of what sinister practices we do accept as the norm, where international relations are concerned, imagine a prize fight reported in the style regularly used for news of international disputes: one fighter's blows would be reported as threats and provocations, while the other's were mentioned in the tonalities proper to long-suffering and calm retaliation regrettably made necessary by the outlandish aggressiveness of the opponent.)

We hoped next to work in a reference to what we like to call the "scene-act" ratio. That is, a situation may be so described that one particular kind of act or attitude is implicit in it (described not falsely, but with "honest selectivity"). For a complex situation may without untruth be so reported that exclusively pugnacious rather than friendly or meditative attitudes are evoked; or the exact oppo-

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site may be as true—a rhetorical function thus lurking beneath the level of the report's "factuality." And when each day's "reality" is "dramatically" put together for us by enterprises that comb the entire world for calamities, conflicts, and dire forebodings, such a documentary replica of the arena confuses us as to the actual *recipe* of motives on which the world is operating. The most critical consideration of all is thus drastically slighted, namely, the *proportions* of the ingredients in a motivational cluster.

Given the conditions of our talk, we should pass over this stage rapidly. But before going into the second or purgatorial stage, I'd like to pause for an aside. I submit that this is the situation, as regards the present state of literary criticism: When aesthetic criticism came in, there was a corresponding demotion of rhetoric. Rhetoric was exiled. And, emigrating, it received a home among various so-called "new sciences." (Anthropology, social psychology, sociology, psychoanalysis, semantics, and the like all took over portions of it. I would also include here psychosomatic medicine, concerned as it is with ways in which our very physiques are led to take on attitudes in keeping with the rhetorical or persuasive aspects of ideas—attitudes of such conviction that they are worked into the very set of nerves, muscles, and organs.)

I shall cite one example of the way in which the "new sciences" took over: Anthropology now considers, under the heading of "magic," many symbolic devices for the establishing of social cohesion. Under the earlier dispensation, these would have been considered as aspects of *rhetoric*. But here is the paradox: After these topics were exiled and renamed "magic," literary critics who borrowed the new terms were accused by purists of importing alien perspectives into their special discipline. Accordingly, by a "new" rhetoric, we mean one designed to restore structures maimed by the vandalism of the exclusively aesthetic (an aesthetic stress, by the way, that had also made positive gains, though they are not our concern at the moment).

If I had to sum up in one word the difference between the "old" rhetoric and a "new" (a rhetoric reinvigorated by fresh insights which the "new sciences" contributed to the subject), I would reduce it to this: The key term for the old rhetoric was "persuasion" and its stress was upon deliberate design. The key term for the "new" rhetoric would be "identification," which can include a partially "unconscious" factor in appeal. "Identification" at its simplest is also a deliberate device, as when the politician seeks to identify himself with his audience. In this respect, its equivalents are plentiful in Aristotle's *Rhetoric*. But identification can also be an end, as when people earnestly yearn to identify themselves with some group or other. Here they are not necessarily being acted upon by a conscious external agent, but may be acting upon themselves to this end. In such identification there is a partially dreamlike, idealistic motive, somewhat compensatory to real differences or divisions, which the rhetoric of identification would transcend.

But we are now ready for our second stage. For, if identification includes the realm of transcendence, it has, by the some token, brought us into the realm of transformation, or dialectic. A rhetorician, I take it, is like one voice in a dialogue. Put several such voices together, with each voicing its own special assertion, let them act upon one another in co-operative competition, and you get a dialectic that, properly developed, can lead to views transcending the limitations of each. At which point, to signalize his change of heart, poor Neurosis might now be renamed "Socraticus."

Socraticus could point out how the very lostness of men in their symbolic quandaries has led to the invention of miraculously ingenious symbolic structures—whereat the very aspects of language we might otherwise fear can become engrossing objects of study and

appreciation; and works once designed to play upon an audience's passions, to "move" them rhetorically toward practical decisions beyond the work, can now be enjoyed for their ability to move us in the purely poetic sense, as when, hearing a lyric or seeing a sunrise, we might say, "How moving!" (We here touch upon the kind of heightened or elevated diction discussed in Longinus' *On the Sublime.*)

Considering the relation between rhetoric and dialectic, we come with Socraticus upon the Platonic concern with the Upward Way (linguistic devices whereby we may move from a world of disparate particulars to a principle of one-ness, an "ascent" got, as the semanticists might say, by a movement toward progressively "higher levels of generalization"). Whereat there could be a descent, a Downward Way, back into the world of particulars, all of which would now be "identified" with the genius of the unitary principle discovered en route. (All would be thus made consubstantial by participation in a common essence, as with objects bathed in the light of the one sun, that shines down upon them as from the apex of a pyramid. And the absence of such dialectic journeys on the grand scale should not be allowed to conceal from us the fact that we are continually encountering fragmentary variants of them. For instance, you may look upon a world of disparate human beings; you can next "rise to a higher level of generalization" by arriving at some such abstraction as "economic man"; and, finally, you can look upon these unique human beings simply in terms of this one attribute, thus "identifying" them with a unitary term got by a tiny rise toward generalization and a descent again from it.)

But the mention of the pyramid can lead us nicely into the third state, our Paradiso. Socraticus might now even change his name to "Hierarchicus"—and we might dwell upon the double nature of hierarchy. Thus there is the purely verbal ascent, with corresponding resources of identification (our notion being that a rhetorical structure is most persuasive when it possesses full dialectical symmetry—or, otherwise put, dialectical symmetry is at once the perfecting and transcending of rhetoric). But there is also another line of ascent; and this involves the relation between the dialectics of identification and hierarchic structure in the social, or sociological, sense (society conceived as, roughly, a ladder, or pyramid, of interrelated roles).

Here we would consider how matters of prestige (in the old style, "wonder," or in the terminology of Corneille, "admiration") figure in the ultimate resources of "identification." Here we would note how our ideas of "beauty," and even "nature," are "fabulous," concealing within themselves a social pageantry. Here would be the ultimate step in the discussion of the ways in which man walks among "forests of symbols."

Then, for the localizing of our thesis, we might have Neurosis-Socraticus-Hierarchicus cite Castiglione's *Book of the Courtier* as a neat instance of the merger of the two dialectical series: the verbal and the social pyramids. For it deals with questions of courtly ascent, while rising through four successive stages from the mere quest of personal advancement, to a concern with the insignia of the courtier as expert or specialist, thence to the cult of courtly sexual relations, and on to the vision of an *ultimate* courtship. In this fourth stage we move into a sacrificial order of motives, fittingly introduced in the dialogues by talk of death, so that, in contrast with the earlier analysis of laughter, there is now a solemn note. This fourth section deals, first, with the Socratic erotic, the love of truth, beauty, goodness, as seen in terms of the courtier who is now in a pedagogic role, aiming not at his own advantage but at the education of the prince in ways that will be beneficial to mankind as a whole.

After the pages on the courtier as educator of the prince, you will recall, through appropriate transitions the work

rises to its exhilarating close, the oration by Cardinal Bembo, on Beauty as "an influence of the heavenly bountifulness." Here is, to perfection, the device of *spiritualization.* So, by the time the Cardinal is finished, we have gone from the *image* of beauty to the pure *idea* of beauty—we have united with ideal beauty: the courtly, truth, utility, goodness—finally we arrive at talk of the soul, which is given "to the beholding of its own substance," a substance angelic (the soul kindled by the desire to partake of the heavenly nature), whereat, with images of mounting and burning and coupling, we end on a prayer to "the father of true pleasures, of grace, peace, lowliness, and goodwill," and on talk of hopes to "smell those spiritual savors"—and lo! after the Cardinal has paused, "ravished and beside himself," we discover that the discussion has continued until dawn, so that the company, edified,

saw already in the East a fair morning like unto the color of roses, and all stars voided, saving only the sweet Governess of Heaven, Venus which keepeth the bounds of night and day, from which appeared to blow a sweet blast, that filling the air with a biting cold, began to quicken the tunable notes of the pretty birds, among the hushing woods of the hills.

Since this work is so exalted in its closing pages, like the final rejoicing of a symphonic finale, we thought we should contrive to end our apology on that. For it would be something that even Studiosus might readily applaud; and in applauding the citation, he might seem to be applauding the speaker.

But at that stage, we grew uneasy. Even suppose our ruse had succeeded. What of the morrow? What had we considered, as regards particular, practical problems?

To meet that question, we should go back to a hint introduced, in passing, when we mentioned the earlier stages of Castiglione's book. For there the author considers at great length the approved devices whereby the courtier can translate his aptitudes into schemes, stratagems, advantage-seeking actions. Can we not, when looking at the resources of words, seek to categorize and describe in that spirit the kinds of role which, while they impinge upon the rhetorical devices considered in Books vii, viii, and ix of Quintilian, have also a more personalized dimension? These would fall across all the three levels we have considered in our little Human Comedy.

Aristotle treated rhetoric as purely verbal. But there are also areas of overlap (making for a kind of "administrative" rhetoric). Consider, for instance, Machiavelli's *Prince,* as seen in this light:

Machiavelli's *The Prince* can be treated as a rhetoric insofar as it deals with the *producing of effects upon an audience.* Sometimes the prince's subjects are his audience, sometimes the rulers or inhabitants of foreign states are the audience, sometimes particular factions within the State. If you have a political public in mind, Machiavelli says in effect, here is the sort of thing you must do to move them for your purposes. And he considers such principles of persuasion as these: either treat well or crush; defend weak neighbors and weaken the strong; where you foresee trouble, provoke war; don't make others powerful; be like the prince who appointed a harsh governor to establish order (after this governor had become an object of public hatred in carrying out the prince's wishes, the prince got popular acclaim by putting him to death for his cruelties); do necessary evils at one stroke, pay out benefits little by little; sometimes assure the citizens that the evil days will soon be over, at other times goad them to fear the cruelties of the enemy; be sparing of your own and your subjects' wealth, but be liberal with the wealth of others; be a combination of strength and stealth (lion and fox); *appear* merciful, dependable, humane, devout, upright, but be the opposite in actuality, whenever the circumstances require it; yet always do lip-service to the virtues, since most people judge by appearances; provoke resistance, to make an impression by crushing it; use religion as a pretext for conquest, since it permits of "pious cruelty"; leave "affairs of reproach" to the management of others, but keep those "of grace" in your hands; be the patron of all

talent, proclaim festivals, give spectacles, show deference to local organizations; but always retain the distance of your rank (he could have called this the "mystery" of rule); in order that you may get the advantage of good advice without losing people's respect, give experts permission to speak frankly, but only when asked to speak; have a few intimates who are encouraged to be completely frank, and who are well plied with rewards.[1]

As an instance of more purely literary tactics, we might cite this passage from Demetrius *On Style*:[2]

In fine, it is with language as with a lump of wax, out of which one man will mould a dog, another an ox, another a horse. One will deal with his subject in the way of exposition and asseveration, saying (for example) that "men leave property to their children, but they do not therewith leave the knowledge which will rightly use the legacy." [This he calls the method of Aristippus of Cyrene.] . . . Another will (as Xenophon commonly does) express the same thought in the way of precept, as "men ought to leave not only money to their children, but also the knowledge which will use the money rightly."

What is specifically called the "Socratic" manner . . . would recast the foregoing proposition in an interrogative form, somewhat as follows. "My dear lad, how much property has your father left you? Is it considerable and not easily assessed? It is considerable, Socrates. Well now, has he also left you the knowledge which will use it rightly?"

For some years, in tentative ways, somewhat on the side, I have been trying to decide on terms for categorizing various literary strategies, as seen in the light of these borrowings from Machiavelli and Demetrius. This is no place to display the lot. But I might cite a few brief illustrations. Here, for instance, are some cullings from my notes on what I tentatively call the "bland strategy":

At one point in *The Idiot*, Ippolit accuses Mishkin of learning how to "make use of his illness." Mishkin, he says, has managed to offer friendship and money "in such an ingenious way that now it's impossible to accept under any circumstances." Mishkin's behavior has been "either too innocent or too clever." Ippolit is here in effect giving the formula for blandness. Blandness is ironic, in that the underlying meaning is the opposite of the one that shows on its face, while there is always the invitation to assume that the surface meaning is the true one.

Diplomats often use it, when sending warships abroad in times of peace. Though the warships may be dispatched purely for purposes of threat, the enterprise can be blandly put forward as a "goodwill mission." Or a government may use troop movements as a threat, and blandly call attention to the troop movements by announcing that they are but part of a "routine action" and are not intended as a threat.

A friend said: "I once had an uncle who was gentle enough, but enjoyed watching fist fights among children. Each Saturday he would get a dollar of his pay changed into pennies; and calling the children of the neighborhood, he would toss the pennies one by one, while explaining unctuously: 'Just scramble for the pennies, and each of you can keep as many as he gets. But no pushing, no shoving, boys, and above all, no fighting.' While thus setting up conditions of the Scramble that almost automatically made for a fight, he could blandly call for peace, confident that war would come before he had tossed a dozen pennies."

Or there was the case of Joseph, who, without funds, had married a rich Josephine. At first, in all simplicity, he paid for his keep by being assiduously attentive. Then slowly over the years, a perverse, and even morbid blandness emerged in his treatment of her, unbeknownst to them both. Joseph began to plague Josephine with his worries for her welfare. He did not let her live a moment without the feel of a doctor's hand on her pulse. He was so attentive that no one could fail to comment on his devotion. And in her unexpressed and inexpressible desire to poison him, she felt so guilty that each day she became more sickly. Here was a situation worthy of the André Gide who wrote *The Immoralist*. Blandness could go no further.

Soon after our occupation of Japan in the last war, Japanese officials exploited a bland-

[1] See the author's *Rhetoric of Motives* (New York: Prentice-Hall, 1949), p. 158.

[2] v. 296–97, Loeb ed., trans. W. Rhys Roberts (Cambridge: Harvard University Press, 1946), p. 481.

ness of this sort. They confounded the victors by being painfully meticulous in their desire to co-operate. They never tired of asking for "clarifications" of military orders, so that they might obey to the last letter. They were even "scrupulous" in reporting their own violations and misunderstandings of any order. They were so assiduously anxious to please, that they made the conqueror sick of his own commands. For instead of resisting the regulations, they tirelessly brought up bothersome questions supposedly intended to "help put the regulations into effect."

An ironically bland kind of co-operation is said to have taken place during the German invasion of Czecho-Slovakia. The Nazis had been sending spies among the Czechs. These spies would spot anti-Nazi patriots by going to Czech cafes and talking "confidentially" against Hitler. Soon the Czechs learned of the ruse. Hence, next phase: Nazi spy comes to cafe where Czech patriots are gathered. In the role of *agent provocateur*, the spy talks against Hitler. Whereupon the Czechs virtuously pummel him "for saying such things against the Führer."

Given blandness enough, one person might co-operate another off the map.

Such stratagems, instances of which I have been collecting (still using a somewhat experimental terminology of placement, not logically schematized—at least not yet) sometimes apply to a rhetoric of human relations in general; sometimes they are confined to purely literary tactics. Many taken from the press fall halfway between a purely "verbal" and an "administrative" rhetoric. And many taken from books (thus from the realm of literature) at the same time have social relevance generally.

I might cite a few more places where concerns of this sort are observable.

In *The Making of Americans* Gertrude Stein came close to a systematic study of rhetorical devices in personal relations. Toward the end, for instance, when discussing how sensitiveness becomes transformed into suspicion, making a "simple thing" look like a "complicated thing," she writes:

These then I am now describing who are completely for themselves suspicious ones, who have it in them to have emotion in them become suspicious before it is a real emotion of anything for anything about anything in them, these have it completely to be certain that every one is doing feeling seeing the thing that one is feeling doing seeing believing when such a one is not agreeing with them, when such a one is feeling thinking believing doing anything that such a one is doing that thing for a mean or wicked or jealous or stupid or obstinate or cursed or religious reason, it is not a real feeling believing seeing realizing, that this one having suspicion in him is certain.

She then gives the paradigm of an anecdote:

One of such a kind of one once liked very well some one and then that one forgot to give this one five cents that this one had paid for that one and then this one hated that one, had no trust in that one for this one was certain that that one knowing that this one was too sensitive to be asking did not think it necessary to pay that one, he never could believe that any one forgot such a thing. This is an extreme thing of a way of feeling that is common to all of these of them.

The stress here moves rather toward the agent than the act (that is, in our terms, it is idealistic); but underlying it is clearly the concern with social tactics (which, one notes, her style is well adapted for stating in *generalized* form).

In a satiric epigram leveled at Cato the Censor, who had walked out of the theater in righteous indignation, Martial asks rhetorically: "Why did you come to the theater? That you might leave?"

In Aristotle's *Rhetoric* a similar pattern is considered when he notes,[3] as a "topic," that one person may make a present of something to another, in order to cause him pain by depriving him of it. Then Aristotle goes on to show how the device may be given cosmological proportions; he cites from an unknown author: "It is not from benevolence that the deity bestows great blessings upon many, but in order that they may suffer heavier ca-

[3] 2. 23.

lamities"—and whether or not this be a favorite device of the gods, it is certainly a device of a sort that should properly be fitted into a collection of strategies for characterizing the antics of the Human Comedy.

Proust's work is full of such concerns. The kind of closely interwoven relationships he deals with makes for tiny replicas of the stratagems used in the manipulating of mighty empires. Thus Proust notes that the servant Françoise and Aunt Eulalie are related as quarry to hunter, so that "they could never cease from trying to forestall each other's devices." And after describing the nature of their sparring, he concludes:

> a middle-aged lady in a small country town, by doing no more than yield wholehearted obedience to her own irresistible eccentricities, and to a spirit of mischief engendered by the utter idleness of her existence, could see, without ever having given a thought to Louis XIV, the most trivial occupations of her daily life, her morning toilet, her luncheon, her afternoon nap, assume, by virtue of their despotic singularity, something of the interest that was to be found in what Saint Simon used to call the "machinery" of life at Versailles; and was able, too, to persuade herself that her silence, a shade of good humour or of arrogance on her features, would provide Françoise with matter for a mental commentary as tense with passion and terror, as did the silence, the good humour or the arrogance of the King when a courtier, or even his greatest nobles, had presented a petition to him, at the turning of an avenue, at Versailles.

Nor was Françoise lacking in ability to wage the same kinds of warfare against underlings who were, in turn, subject to *her* jurisdiction. After referring to Fabre's descriptions of a wasp that paralyzes an insect and deposits its eggs in the victim, Proust continues:

> in the same way Françoise had adopted, to minister to her permanent and unfaltering resolution to render the house uninhabitable to any other servant, a series of crafty and pitiless stratagems. Many years later we discovered that, if we had been fed on asparagus day after day, throughout that whole season, it was because the smell of the plants gave the poor kitchen-maid, who had to prepare them, such violent attacks of asthma that she was finally obliged to leave my aunt's service.

We could well cite Mark Twain as a source for a rhetoric of such devices. His concern with ruses, stratagems, with the lore of gamblers, swindlers, and the like, is not so much *moralistic* as *appreciative*. His roving enterprisers are not merely salesmen; they are rogues and spellbinders, preferably given to selling poor stuff grandiloquently.

Typically, Twain quotes this example of spiritualization, from a "now forgotten book," about a "big operator":

> He appears to have been a most dexterous as well as consummate villain. When he traveled, his usual disguise was that of an itinerant preacher; and it is said that his discourses were very "soul-moving"—interesting the hearers so much that they forgot to look after their horses, which were carried away by his confederates while he was preaching.

Deflection is a particularly important device. In a sense any slight bias or even unintended error in our vocabulary for describing reality serves as a deflection. Since even the most imaginative, intelligent, virtuous, and fortunate of men must err in their attempts to characterize reality, some measure of deflection is natural, inevitable. Deflection is so perennially effective when deliberately used, because it arises so spontaneously. The Freudian notion of "displacement" in dreams indicates how close it is to the roots of natural human evasiveness.

Thus a child, provoked when made to give his brother something that he wanted to keep, began crying bitterly because his brother hadn't said "Thank you." His brother promptly said "Thank you," whereupon the child cried all the louder, "because he didn't say it soon enough."

A variant of deflection is used constantly in jokes, where two infractions are in-

volved, one important, one trivial, and laughter is elicited by shifting the stress to the trivial one when the important one was, of course, the real issue.

A typical kind of spontaneous deflection arises thus: Wherever there is control along with disorder, the control can be blamed for the disorder. But if controls are relaxed and there is disorder, the blame can be laid to the absence of controls. Since both the controls and the relaxed controls are matters of government, it follows that government can be blamed for everything.

There is no time now for us to consider the various formulations we have tentatively used in classifying the devices. But we would like to say a few words on one of these, already mentioned in passing. And it will bring our discussion to a close. This is the device of "spiritualization," or the *nostrum* (which transcends the conflicts of the *mine* and the *thine*, the *meum* and *tuum*, by raising them to resonant terms of *ours*, the *nostrum*). Here is a grand device, central to polemic, which is forever translating back and forth between materialist and idealist terms for motives.

Are things disunited in "body"? Then unite them in "spirit." Would a nation extend its physical dominion? Let it talk of spreading its "ideals." Do you encounter contradictions? Call them "balances." Is an organization in disarray? Talk of its common *purpose*. Are there struggles over means? Celebrate agreement on ends. Sanction the troublously manifest, the incarnate, in terms of the ideally, perfectly invisible and intangible, the divine.

In a society beset by many conflicts of interests and aiming with the help of verbal tactics to transcend those conflicts, the uses of spiritualization as a device are endless. Spiritualization is the device par excellence of the Upward Way—vibrant with the gestures of unification, promise, freedom. And so, ending upon it (by recalling snatches, fragments, of Castiglione's symphonic finale):

> . . . beauty . . . truth . . . utility . . . goodness . . . [all grandly united] . . . spiritual savors . . . in the East a fair morning like unto the color of roses . . . the sweet Governess of Heaven, Venus which keepeth the bounds of night and day . . . the tunable notes of the pretty birds, among the hushing woods of the hills. . . .

TRANSFER OF TRAINING IN GENERAL EDUCATION

Lloyd G. Humphreys

THE expected outcomes of education do not always materialize. Time spent in training seems wasted when students are asked to use their learning in new situations. A group of children are taught multiplication combinations by rote alone. They later have great difficulty in utilizing their multiplication skills in long division. The graduates of a course in English literature, supposedly designed to promote literary appreciations, show no increase in either the quantity or the quality of their reading in comparison with their pre-course status. A Sunday-school teacher believes that she is engaged in moral training. Her charges acquire a great deal of biblical information, but there is no observable effect on their moral behavior. The information is also rather quickly forgotten. An instructor believes that his language course sharpens the intellect, but no generalized intellectual advantage can be observed in comparing his students with those of initially comparable ability who have had no language training. The claimed function of a laboratory course in physical science is to teach the scientific method. Not only does there seem to be no carry-over by the students to biological science or social science, but the skills and attitudes acquired are more those of the technician than of the scientist. It is claimed that geometry increases logical reasoning ability. The only measurable outcome of a traditional geometry course, however, is an increase in the ability to solve problems in geometry.

These problems are known in psychology as "transfer-of-training" problems;[1] they were selected to dramatize the issue, since in each case someone expected transfer that did not occur. All of us make similar assumptions, either implicitly or explicitly, concerning possible transfer effects from our courses. Few of us attempt to check the validity of those assumptions. We need to know, first, whether transfer is possible in situations such as those described. Second, if transfer is possible, we need to know how to maximize it.

Questions such as the following pose similar problems: Does the usual music-appreciation course actually produce a change in the student's appreciation of music? If not, what can be done in the course to produce the desired change in student behavior? Do foreign-language courses promote international understanding? What are the transfer effects to later civilian status of compulsory military training for eighteen-year-olds? If these effects are undesirable, how can we change military training to promote desirable democratic objectives and still maintain our national security? How can we teach the graduates of our schools, as citizens of a democracy, to make intelli-

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[1] The writer has not attempted to document each point made in this paper, but, rather, has presented his interpretation of a fifty-year literature of many titles. The interested reader is referred to the following general sources: E. R. Hilgard, "The Relation of Schools of Psychology to Educational Practices," *California Journal of Elementary Education*, VIII (1939), 17–26; J. A. McGeoch, *The Psychology of Human Learning* (New York: Longmans, Green & Co., 1942); A. I. Gates and others, *Educational Psychology* (New York: Macmillan Co., 1949); and National Society for the Study of Education, *Forty-first Yearbook*, Part II: *The Psychology of Learning* (Chicago: University of Chicago Press, 1942).

gent choices concerning control of atomic energy, antivivisection legislation, protective tariffs, treatment of minorities, etc.?

Definitions and assumptions.—Before attempting to state the principles, derived from experimental data, which would be used to explain why the expected transfer did not take place in the first group of illustrations or which would be used to predict outcomes where answers are not presently known, it will be useful to state important definitions and assumptions. Psychology has a technical terminology that has largely been borrowed from popular usage. As a consequence, misunderstandings easily result.

Psychologists use the term "training" in the transfer literature as synonymous with "learning." The latter term includes the changes in skills, attitudes, feelings, emotions, knowledge, perceptions, ideas, etc., that are the relatively stable result of experience.[2] Many psychologists today might include all these different kinds of learning in the phrase "'changes in behavior," but in so doing they would not restrict themselves to the Watsonian behaviorism of the twenties. The term "behavior" includes all the psychological functions of the organism.

Other definitions of training are possible. For some educators, training means narrow, vocationally directed learning. These individuals use "education" as a broader term which includes much more than vocational training. Psychologically, however, "training" has developed into a broader term than "education," including both the latter and the informal, incidental learning that takes place, for example, in the neighborhood, school, and office. A "training situation" is one in which learning takes place.

By "transfer of training" we mean the influence of past training in a new situation which differs from the original training situation. The situation in which the influence of past training is to be tested can be called the "transfer" or "test situation." Differences between training and transfer situations vary from great to small. The direction of the influence of past training can be either negative or positive, either inhibitory or facilitory. The influence of past training in the new situation, or the "transfer effect," can vary in amount from zero to a positive amount equivalent to the effects of direct training on the transfer task. A maximum amount for negative transfer is more difficult to specify.

An interest in transfer of training is not synonymous with an interest in vocational education. The personal or social desirability of the behavoir in transfer situations is an educational and social, but not a psychological, problem. Determination of the facts concerning transfer, for example, how much and under what circumstances, is a psychological problem. The development of generalizations to fit these facts and the prediction of new facts from these generalizations is also a psychological problem. Transfer is an issue whether the objectives of training are vocational or liberal, specific or general, attitudinal or informational. Given a set of objectives for education, the development of techniques of training, including both method and curriculum, that will produce the desired behavior to the highest degree and with the broadest transfer possibilities is a problem that can best be solved by the co-operation of the specialist in subject matter and the psychologist.

While educational objectives are not an issue in the science of psychology, individual psychologists have the right of any faculty member, or citizen, to favor certain objectives. The present writer, for example, is seriously concerned about general or liberal education. He believes that both students and the general public typically overstress vocational goals. He further believes, however, that much of the curriculum that was important several hundred years ago in promoting a liberal education is perhaps outmoded.

[2] Temporary changes such as those due to fatigue, boredom, and warming up are, of course, excluded from learned changes.

We should consider the problems of liberal education from the point of view both of modern needs and of knowledge of learning and transfer principles.

HISTORY OF THE TRANSFER PROBLEM

Formal discipline.—The history of the transfer problem usually starts with the doctrine of formal discipline. This doctrine is unusual, since the facts of transfer that the theory was supposed to explain did not exist. Under the circumstances it would hardly seem to warrant attention. Discussion is indicated, however, because at one time the theory was so strongly intrenched and because remnants of it are still with us today.

Mind was considered to be composed of many faculties, of which reasoning and memory are appropriate examples. Faculties were strengthened by exercise, as muscles are strengthened by exercise. Since the most difficult subjects provided most exercise, Latin, Greek, and mathematics were, therefore, the most desirable subjects in the curriculum and could be used for both vocational and liberal-arts training. Some of the more biologically oriented theorists suggested that these faculties were localized in the cerebral hemispheres. Furthermore, if a given faculty were a prominent aspect of an individual's personality, the corresponding brain area would be found to be enlarged. A few individuals took the additional step of assuming that these enlargements would affect the cranium. Thus we find a tie between the doctrine of formal discipline and the pseudo-science of phrenology.

Educators such as Eliot and psychologists such as William James had begun to suspect the validity of the formal-discipline doctrine before the end of the nineteenth century. The hypothesized faculties were suspect, and the physiological basis of the faculties had been completely overthrown. Then, around the turn of the century, Thorndike and his co-workers began making the direct measures of transfer effect that have proved to be most damaging to formal-discipline notions. In general, it has been found that no learning activity has any widespread mental disciplining power. In a typical experiment two groups of subjects are matched in terms of initial ability; both groups are trained similarly except for the experimental variable, e.g., Latin is taught one group, shop is taught the other; both groups are given a reasoning (or memory) test at the conclusion of training; little, if any, difference in final ability is discovered.

Experiments similar to the one described above have brought to light an important function served by the classical curriculum that undoubtedly confused early thinkers about transfer. If students are not carefully matched for initial ability, a difference in both initial and final ability is typically discovered. The initial difference in aptitude between those who have taken Latin and those who have taken shop is explained in terms of the self-selection that goes on in the choice of a curriculum and in terms of the greater elimination rate of students in classics who have low reasoning ability. All difficult academic subjects serve as valid selection devices for later educational or occupational placement, though this function is served quite inefficiently today in comparison with the results obtained in a few hours from the use of available aptitude tests.

Identical elements.—Thorndike, after showing the lack of disciplining effect of traditional academic subjects, was still able to demonstrate the existence of transfer in limited areas. He suggested that transfer took place when there were identical elements between the training and the transfer situations. More recently this statement of the basis for transfer has been called the "identical-components theory" in order to avoid criticism directed at the atomistic, specific stimulus-response connotations of the original expression. Since there is no compulsion to consider the problem atomistically, the change in terminology is valid. At the

same time, the major emphasis of the theory remains the same.

Thorndike's contribution led to educational conclusions similar to the following: If you need accounting in your occupation, study accounting during your training and preferably the type of accounting you will need. If you want to read Cicero in Latin, by all means study Latin. If, however, you want to learn French, do not spend several years in the study of Latin, since you will be farther ahead if you concentrate on French. If you want to learn to solve social problems, spend your time in the social sciences, not in the study of geometry. If classroom activities resemble the work of a laboratory technician, the habits acquired will be those of a technician. It is sufficiently difficult to teach scientific methodology in a single science that to attempt to teach it in a physics class as a behavioral trait is hardly feasible.

Examples such as the above could be continued indefinitely. The indicated transfer is narrow in scope but, in terms of predictable outcomes, is still a sound basis for curriculum planning and instruction. More recent research has indicated that certain modifications have to be introduced, modifications that lead to a little more generality in transfer, but thinking about transfer problems in terms of identical elements should not be discarded. The argument that Thorndike's theorizing contributed to the utilitarian movement in American education is not critical. This was not a necessary consequence of the theory but resulted, instead, from the increasing importance attached by the public and certain educators to vocational objectives. The above examples indicate that the theory applies equally well to other educational objectives. Specifically, if literary appreciations constitute a desired out-of-class outcome of the educational process, then the in-class activities must involve similar behaviors.

Generalization.—Increasing dissatisfaction with the identical-elements theory as more transfer data became available led to the development of additional principles to account for the results. At times, particularly in the realm of attitudes, more widespread transfer was obtained than might have been expected from the limited, original interpretation of the identical-components theory. At other times—e.g., the failure of multiplication skills to transfer to the solution of long-division problems—less transfer was observed than might have been expected from an objective analysis of the identical components involved.

A widely quoted experiment by Judd is pertinent here. One group of subjects was given instruction concerning the refraction of light. A second comparable group, serving as controls, had no theoretical instruction. Both groups were given practice in aiming a dart at an underwater target. Neither group exhibited any superiority in original learning. Then the depth of the target was changed. The group given the principle of refraction was now clearly superior to the control group on the transfer test. Judd reasoned that an analysis in terms of identical perceptual-motor components was inadequate. He stated that transfer took place when appropriate generalizations had been formed.

The Gestalt psychologists have talked about what is essentially the same phenomenon as that studied by Judd in terms of the meaningful organization of learning. Such learning, in their terminology, transposes or transfers more readily than material learned in meaningless, rote fashion. When multiplication is taught by methods that stress the meaningful order of the arithmetic processes, considerable transfer results. The introduction of principles in the teaching of spelling results in better spelling, including greater transfer to the spelling of new words than can be obtained following the use of the rote methods.

Other general factors that promote transfer are habits of work, methods of attacking problems, and motivation to

find transfer possibilities. All involve more than identical components as originally used and defined by Thorndike, but they supplement rather than supplant the earlier theory. Transfer possibilities for specific subject-matter learning are broadened by taking into account this more recent theorizing, and the problem of curriculum selection is lessened by the decreased emphasis on specificity, but observed transfer effects are still small in comparison with the unsubstantiated beliefs of the adherents of formal discipline.

Common elements in current theories.—Psychologists of all points of view reject transfer claims that represent formal-discipline notions. The latter beliefs frequently show up today, at times using the same terms that were popular a hundred years ago, at times disguising the formal disciplinary claims in new terms, but no evidence has been presented to back the beliefs. Psychologists feel that, while some matters are properly in the sphere of belief, principles of learning and transfer are just as properly the subject of quantitative, scientific inquiry.

All theories of transfer also require sound initial learning. There is nothing in the transfer literature to suggest that schools should ease up or that instructors should require less work. Objections to a curriculum composed primarily of Latin, Greek, and mathematics are not based on the difficulty of the subjects or the high standards of teachers of these subjects. The important objection is that the supposed benefits are not obtained by the students.

APPLICATIONS TO EDUCATIONAL PROBLEMS

The study of language.—Two statements can be made dogmatically about the study of any language. First, there will be no sharpening of intellect, no increase in reasoning ability, no increase in memory ability. Second, if a student needs to know the language, he must, of course, study the language. The position of language instruction in special education is secure. For possible outcomes of interest in general education, the amount of transfer is less certain, particularly when the cost in time is considered.

To take an example, analysis of the Latin and English languages indicates that there are identical elements in vocabulary and grammar. There are also possible elements in common between Latin and ancient history. Can we expect transfer in these areas? In answering this question, we recall the multiplication–long-division example. The expected transfer will not take place unless the identical components as seen by the instructor are made meaningful to the students. The teacher, in other words, has to teach English vocabulary, English grammar, and ancient history along with Caesar and Cicero.

Practice in translating any language into English may well have an appreciable effect on the student's skill in English composition. We would expect more transfer from translation in the indicated direction than from translation of English into the foreign language. We would also expect more transfer in this area if stress is placed on idiomatic English translations.

The skeptic may ask at this point whether perhaps greater gains for the majority of students in these areas can be made by the use of some more direct medium than a second language. After all, the mere demonstration of desirable transfer in some amount does not furnish conclusive evidence for keeping a particular subject in the curriculum. The criticism is undoubtedly valid in the present instance, since there are ways of manipulating English alone to achieve the same ends more efficiently. If there are other reasons for the student to learn the language, however, he might as well obtain maximum benefit from his endeavor.

The claim that study of a modern foreign language increases international understanding is heard increasingly today. It has been conclusively demonstrated that attitudes toward a specific country can be changed in a favorable direction by *proper* study of the language. One sus-

pects also that it would not be difficult to find language courses taught somewhat differently that produce the opposite effect, but data are not available. When the time spent by the average student in learning the language is balanced against the gain in attitude toward a single country, one is tempted to seek again for a more direct approach to international good will. Language training is best justified when the student needs to know the language, whether his need is for business or aesthetic reasons.

Aesthetic appreciations. — There are specific problems in the teaching of aesthetic appreciations in music, art, and literature, but only common problems will be considered here. It should also be noted that transfer of appreciations from one area to another will not take place automatically, i.e., aesthetic appreciation cannot be trained as a whole by working in any one medium. If the instructor in music wishes to have the students relate his subject to art or literature, classroom activities must include such relationships.

In training for appreciations, we frequently run afoul of the grading system. Grades based on proficiency are essential in professional courses, but we should consider the possibility that the problems may not be the same in general education. If we are interested in increasing reading and enjoyment in reading, why should we construct tests and grade our students solely in terms of their intellectual grasp of the subject? Is the ability to memorize the names of Shakespeare's characters related to the main objective of instruction? Grades are not easy to assign in the learning of appreciations, but undesirable practices should not be continued, even though there is no easy substitute.

General education in all fields is frequently in conflict with the interests of special education. We sometimes confuse what an advanced graduate student should know about Shakespeare, for example, with the needs of lower-division students, most of whom will major in other fields. This confusion frequently leads also to stress on information and analysis at the expense of appreciations.

Aesthetic appreciation is not solely an emotional experience. Intellectual competence is necessary; e.g., ability to read the English language with understanding is basic to literary appreciation. Historical information may also be important. Principles of psychology, including symptoms of abnormal behavior and of unconscious motivation, may at times be involved. These can be organized to increase the appreciation of the novel, or they can be taught as ends in themselves. The sort of organization intended here can frequently be obtained in good films or plays better than by the usual classroom procedures. Visual aids must be carefully selected and used, however, if they are to make the desired contribution.

The great-books approach.—The contribution of the so-called "great-books" approach to general education is sometimes assessed in terms of the need to acquaint students with the wisdom of the past. The problem becomes of more interest from the transfer point of view if something is added about the need to use the past wisdom in the present. Isolated information about the past is easy to teach but is difficult for the student to retain and use. Use of the wisdom of the past in considering present problems does not take place automatically, even with the brightest of students. The student must have the opportunity in the classroom to try out ideas obtained from his study if his knowledge is going to transfer to new situations. In attempting to make history meaningful to secondary students, for example, teachers have successfully taught history "backward." This does not mean that we must always start with the present, but, if we want effects in the present, we must teach for that objective.

Social scientists frequently find themselves at odds with the enthusiasts for the great-books program on an issue that is less clearly related to the transfer problem. These enthusiasts sometimes imply that study of the great books is a suffi-

cient basis for deciding present social problems and problems of human interrelationships. The social scientist does not believe that such problems can be solved by anyone, even with optimum teaching, from the study of our classics alone. He argues that the essential content simply is not there. In addition to the wisdom of the ages, we need to obtain reliable information about human problems by the application of scientific methods to those problems. Since the content is considered inadequate, the advocate of an extreme position with regard to the value of the great-books approach to general education is only, so it is reasoned, rationalizing his position on grounds of formal discipline.

Science.—During the last fifty years many institutions have required students to have one laboratory course in science in the lower division. Typical reasons offered are to train students in the disciplined habits of scientists and to give students an understanding and appreciation of the scientific method. Since any laboratory course can fill the requirement in most institutions, it is obvious that claims for considerable transfer are involved.

There are several reasonable predictions that can be made concerning this procedure. In the first place, the training in the physics laboratory will probably extend only to the subject matter of physics. If greater breadth than that is required, the course must be broadened. Second, the techniques taught in the usual laboratory are only in small part the techniques of the scientist. The techniques learned have been characterized in an earlier section as those of the technician, not of the scientist. The major omission from the laboratory of techniques essential to the scientist are his problem-solving activities. If problem-solving is desired, problem-solving must be an essential part of the laboratory procedure.

Also omitted from the usual laboratory course is any attention to attitudes toward science. There is little profit in required courses in science that may increase the student's dislike of science and scientists. Desirable changes in attitudes in this area can no more be taken for granted than they can in the area of aesthetic appreciations. Changes in attitudes can be measured with some success. Techniques for changing attitudes in specific courses must be developed.

The writer has attempted to interpret the transfer-of-training literature in psychology as it pertains to the problems of general education. In doing this, the history of the thinking and experimentation with regard to transfer problems has been traced up to the present, and an evaluation of present status has been given. A highly personal interpretation of the implications of the transfer theory to a number of educational problems has also been attempted.

The first step in analyzing an educational problem in terms of transfer possibilities is to decide on the ends to be accomplished. The second step is to select the classroom (or course) content that seems most suitable for the achievement of the objectives. This selection is made primarily in terms of the identical-components basis for transfer, that is, the content of the training situation should correspond as closely as possible to the content of the prospective transfer situation. The third step is to decide how this content should be presented or to determine the techniques of instruction that will be most effective. Here the contributions of Judd and the Gestalt psychologists are most appropriate: the teaching must stress general principles, organization of the learning, etc. The fourth step, and perhaps more important than either the second or the third, is to attempt to measure the extent to which the predicted transfer takes place.[3]

[3] Any reader can disagree with conclusions reached by the writer and still be respectable in psychological circles. The reader who disagrees is under compulsion, however, to do something about his disagreement. One does not need to be a psychologist in order to participate in the measurement of educational outcomes.

ENDS VERSUS GOALS IN FOREIGN-LANGUAGE STUDY

Sten G. Flygt

WHY study foreign languages? is a question that one hears from time to time which causes even the teachers of foreign languages some concern, even though they have a number of answers on tap, so to speak, and are quite ready to start the flow. All or most of these answers have a certain validity but, perhaps because of their variety and profusion, seem to promise more than they can hold. The reasons which are likely to be given can be almost entirely subsumed under the heading of tool or service values. These reasons range from utilitarian considerations of the simplest kind, such as equipping the student to travel abroad, conduct foreign business correspondence, serve in various consular and diplomatic capacities, or even merely improve his knowledge of grammatical terms in English, to the less simple ones, such as enabling the student to read original documents in the natural sciences, to carry on advanced research of any kind, to read the literature of a foreign nation, and to understand its culture. These are, of course, all worthy aims and capable of being achieved in some degree, but the very abundance of reasons given, with their great range of cogency, tends to prove too much and to distract the attention from ends which are unique to language study, which can be achieved, and which, to anticipate the trend of the discussion in the present article, can do something, at least, to counteract tendencies of insularity and semantic dulness.

There is also another type of answer, which, although it does not deny the legitimacy of the foregoing considerations, proclaims that the real justification for language study is the scientific investigation of language and would make this the dominant aim of language courses. In so far as this answer stresses an end of language study which is unique, it has perhaps even more weight than any of the others; but the proponents of this answer are often betrayed by their own extremely specialized interest and rarely found talent into ignorance of how very quickly the general student's scientific curiosity about language is glutted. Moreover, to teach language from this point of view and with this end predominantly in mind would be to give elementary language study so specialized and professional a bias as to go far toward removing it from general education. This is likely to be like teaching a required course in science as though every student taking it must be trained for scientific research.

Very few people would question the necessity of knowing foreign languages, one or more, for some particular specialized purpose or other. The point that needs to be made is that foreign-language study is indispensable to a general education, having a unique and most significant contribution to make to that end. From this point of view the various aims set forth above can make a good claim because proficiency in foreign language does enable the student who has gained such proficiency to use the language in any or all of the ways indicated. Furthermore, there is not much doubt that a competently taught course of even two years' duration can and does enable some of the students taking the course to make such use of the language. The difficulty comes when the question is

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asked: How many students? If the place of language study in general education is to be justified by such utilitarian aims, it is not only legitimate but necessary to inquire to what extent such aims are achieved. One estimate might be that not more than one-third of all the students who take a two-year course in French or German actually use the language in their later careers. Thereupon the question naturally arises: If the contribution of language study to general education depends upon the achievement of such an outspokenly utilitarian aim, is it a sufficiently significant contribution, in view of the fact that relatively few students achieve it? Thus the utilitarian or tool justification of language study imposes an unfair disadvantage upon it in relation to other subjects. Perhaps students who study English, history, psychology, or political science in college do not make active use of these subjects. Yet no such strict reckoning is demanded of these subjects as is demanded of the languages. And it would seem to be true that the language teachers themselves are largely to be blamed for this unjustified discrimination, since their emphasis upon the utilitarian justification that two years of foreign-language study will give most students tool or reading proficiency has invited precisely this sort of criticism. A parallel case might be the inclusion of two years of piano in the curriculum on the theory that such a requirement would be sufficient for the achieving of playing proficiency. Even the foreign-language teacher, if he assented to the inclusion of piano in the curriculum on this ground, would like to be convinced that a substantial number of students acquired such proficiency.

By way of suggestive illumination it might be fruitful to press the analogy of language study and music study a little further, making due allowances, of course, for the characteristic limitation of reasoning by analogy. It is possible to point out that the study of German, French, or Spanish may be compared with the study of individual instruments, for example, piano, flute, or horn, and that the study of an individual language, let us say German, is to *Philologie* (in the German sense) as the study of piano is to musicology. And one may carry the analogy a little further and say that a monoglot is like a bathtub singer, that is, one whose only contact with music is his own untutored shouting. However, this analogy, like any extended metaphor, should not be taken too literally or pushed too far.

At this point the pertinent consideration is the support given music instruction in a community and its relation to the number of people who attain playing proficiency. A little reflection leads soon to the realization that real playing proficiency is achieved by very few people indeed, and virtuosity by only a handful in a generation. This leads to another realization, namely, that, whether consciously recognized or not, the achievement of playing proficiency is not the end which justifies all the private lessons which so many children are required to take. There must be some deeper, less utilitarian drive which impels parents to spend money for this purpose and adults to invest so much time and energy in addition to money. In other words, the compelling reason for taking piano lessons is the realization that the process of learning to play the piano has very important residual by-products which make the great effort worth while whether the goal of playing proficiently is actually attained or not.

In making the application to language study, it is well to draw a distinction between goal and end. Playing or reading proficiency is the goal toward which the effort is immediately directed; the residual by-products of that effort constitute the end or the ultimate justification of the effort. When the distinction between goal and end is thus drawn, it is possible to see that in language study, as in piano study, the real justification lies outside the achievement of the goal, in other

ends which are attained through the earnest attempts to achieve the goal. This conclusion is in no way shocking or even extraordinary, since general education is, by definition, a process which does not necessarily lead to the acquisition of definite and specific skills and accomplishments but is primarily concerned with attitudes, orientations, and intellectual and linguistic sensitivity, perceptivity, and incisiveness. Moreover, any thoughtful consideration leads inevitably to the conclusion that the ultimate benefit and final justification of the entire apparatus lies in the stimulus to, and the inspirational equipment of, the upper brackets—say, roughly the top 25 per cent—of our students. Teaching must and should be directed toward the middle 50 per cent, but it is the top 25 per cent who have the capacity really to understand and who make the whole thing worth doing. Seen thus, it is an educational sin to deprive the upper 25 per cent of the indubitable cultural value of language study only because the remaining 75 per cent do not obtain an immediately realizable utilitarian benefit. And this is what will inevitably happen unless it is clearly recognized that the ultimate justification of language study does not lie in the service function it can perform for some other well-established discipline or in the claim that two years of college French or German can hope to equip most students with proficiency in the use of the language. Two years of German, if well taught, can equip some of the students with this proficiency, but not all, and perhaps not even most.

But then the question arises: What about the middle 50 or the remaining 75 per cent? Shall they be subjected to something which does them no good in order that the upper 25 may have a rather vague and tenuous advantage? An affirmative answer outrages most minds that have been nurtured in the traditions of American democracy. This is a serious question for the educator, since he knows that the rule of the majority disregards, very often at least, the good of the minority and that to remove a general requirement operative upon the lower 75 per cent is tantamount to denying a vital opportunity to the upper 25 per cent. (The fate of Greek and Latin in our high schools is evidence enough.)

Perhaps, however, the consideration that the ultimate justification of language study in general education lies not in the achievement of the goal of reading proficiency—or, better, independence in the use of the language—but in the residual ends will have some bearing on this question. Such an end might be the intellectual comprehension of the nature of language. Then the question will arise: Should not goal and end be made to coincide and language courses completely reoriented with this in mind? Why should we not give up the admittedly often unattained goal of reading proficiency and work directly toward the attainment of the extremely valuable general ends? Is this a good solution? Perhaps the answer can be suggested by a second glance at the analogy of the piano with, let us say, German.

If the benefits or the justifying ends of the study of a musical instrument are such as have been suggested and lie outside the achievement of playing proficiency, does this mean that the piano teacher ought to change his goal and, instead of trying to get his pupils to play the piano, lecture them on the differences between French and German music or on the baroque and classical elements in Bach or the expressiveness of the piano as opposed to that of the violin, without making them play or letting them hear the sounds? (It must be remembered that there is no passive listening in language; hence the proper analogy is that of lecturing to the music student without permitting him to hear a note.) To ask the question is to answer it: a comparison of the piano's range and complication of expression with that of the violin cannot have any real signifi-

cance for someone who has had no contact with music.

Performers would benefit, it is true, by more reflection, by cultural and historical perspective; likewise mere polyglots. But for a monoglot to talk of, let us say, the French genius for lucidity or the German genius for subtle abstraction and poetic mysticism is mere verbalization. A monoglot can never understand what is meant by these things. No translation will ever convey the flavor and feeling of a foreign language or mentality. To return to the analogy of music: Translations are like transcriptions; if *good,* a translation can give a monoglot something of the same notion of an original as, let us say, the piano transcription of an organ fugue might give somebody who could never hear an organ. And for the monoglot the *average* translation is something like an organ fugue transcribed for solo voice. If the teacher gives up the struggle to get his pupils to reach the goal of independence in the use of the language, he surrenders to the prevalent worship of verbalization and becomes a charlatan. The real values of language or piano study, their ends which justify the efforts, are by-products of those very efforts made to achieve the goal. As in swimming, the important thing is not that the learner actually achieve the goal of ten or twenty lengths of the pool, in order to be able, at some improbable time in the future, to keep himself afloat if the ship on which he happens to find himself should sink, but that he have the pleasure of getting the feel of water and of developing his physique in a certain way. The real justification for taking swimming, history, and piano is not the direct and utilitarian application of these things but the fact that, apart from the immediate satisfaction, these pursuits have a residual value, a by-product of their pursuit which becomes much more important than the attainment of proficiency.

Similarly, in language study the consideration which justifies the maintenance of a language requirement is not that most people who take a foreign language become proficient in the language, but it lies, perhaps first and foremost, in the pleasure of doing something which exerts a significant fascination upon almost everybody at some stage of his development. Most people are interested in language in some way, even though the interest is likely to be coupled with ignorance. But, beyond this, it should be emphasized and re-emphasized that the real values of foreign-language study for the general student are, like the real value of all other studies for the general student, mainly the nonconceptual, unconscious, subtle, but far-reaching changes in orientation to the significant things of this life, among which not the least significant is language itself as our servant and/or our master and the environment of foreign civilizations, a fact of increasing importance that demands from us an ever growing awareness and understanding. And here is where foreign-language study can have real significance in our country, where two of our most distressing social problems are the problem of insularity and the problem of semantic dulness.

Who can doubt, if he has any direct contact with students, that fewer and fewer have a sure and sensitive grasp of language? This goes much deeper than the prevalent, almost perfect, ignorance of English grammar, though this ignorance is, indeed, a sign and symptom of the underlying critical deficiency. The growing inability to know and feel precisely what there is in a given passage is coupled with an infatuation with impressive-sounding but empty verbalizations. The college freshman, and even the senior, speaks of "research" when frequently all he does is recast and combine selected passages from standard works, often without even troubling to get the bare sense of what he has read. I. A. Richards, in his Introduction to Hugh R. Walpole's

Semantics,[1] speaks of this growing insensitivity to the fluid and protean nature of language and describes three reasons: first, the growth of the vocabulary of technology, in which, contrary to the common tendency of language, a word can be assigned one specific and relatively unvarying meaning; second, the scatter of subjects, which leads to the loss of a common body of knowledge acquired and developed through words; and, third, departure of strict translation from curriculums, the unique opportunity and device for intensive study. And it is useful to bring into context with this a passage from the Harvard Report, *General Education in a Free Society:* "To learn that other languages have words with meanings which no English word carries, that they sort meanings in other ways and link them up in other patterns can be a Copernican step, one of the most liberating, the most exciting, and most sobering opportunities for reflection that the humanities can offer."[2]

With this last statement everyone who has dealt with language will heartily concur. But it must be added that this Copernican step is not a bit of conceptual information; the statement that this is so means nothing; the living experience of it means everything. The freshman who learns that "Was machen Sie?" may mean "What are you doing?" and still not employ any verb-form that corresponds to "are" has experienced a diminution of his naïveté in language. Not a great diminution, to be sure, but, however slight, if it is one of the never ending series of such diminutions inevitable in the learning of a foreign language, it is a step toward greater wisdom and circumspection in regard to language, which is, without much doubt, our greatest intellectual and spiritual treasure. The linguistically naïve person believes that he is using language. It is more likely to be true that language is abusing him. The awareness which he should gain from language study gives him a certain amount of perspective, helps to free him from the tyranny of words. From any point of view this is a gain, which must, of necessity, become perceptible in every intellectual activity he undertakes which depends on language—and how many are there which do not? It must be acknowledged that most of our mental disciplines canot dispense with the use of language, and therefore they must be aided by anything which sharpens the student's general linguistic awareness. For this purpose the study of foreign languages has a unique usefulness. Making a translation of any substantial passage into English is an exercise that requires a combination of the precise and imaginative use of language that no other exercise can duplicate. And it is just in the precise and imaginative use of language that our students are ever more woefully lacking. The protocols of Richards in his *Interpretation in Teaching*,[3] for example, or the answers on examinations which require students to state the meaning of an unfamiliar poem are ample and devastating proof of that—as are also many texts on the foundations of education, visual aids in education, democracy in the schoolroom, and so on, to say nothing of such phrases as "reconstruct the German mind" or the "Russian mind" or the "Japanese mind."

Let us take the phrase "reconstruct the German mind" as an example of something advocated by certain rather prominent writers on international affairs as a feasible program for American foreign policy. If we examine the phrase critically, word by word, the first word offers little ambiguity or resistance: "reconstruct" means "put together again something which has come or been taken apart." But the phrase "the German mind" is very different, indeed. *The* German mind? Is there only one? Are we so definite about it that we know what it is

[1] (New York: W. W. Norton & Co., 1941), pp. 12–14.

[2] (Cambridge: Harvard University Press, 1946), p. 120.

[3] (New York: Harcourt, Brace & Co., 1938).

and can speak of the German mind without further qualification? The phrase "*the* German mind" involves very serious and far-reaching assumptions which must give even a journalist pause, if he becomes aware of them. But if we shift the emphasis to "the *German* mind," the difficulties are only multiplied. Who knows what the *German* mind is? Did it begin with Hitler, with Wilhelm II, with Bismarck and 1870, with 1848, with Goethe, with Luther, with the first Hapsburg emperor, with Charlemagne, with Arminius? Are we so sure of what is German that we can use the adjective thus glibly in a context which has serious and far-reaching consequences?

Alas, confusion reaches a vastly higher power when we add the third word of the phrase, "mind." What is the German *mind?* The present-day mental set of the Germans? If so, which Germans? Those in the Western Zone or those in the Russian Zone? Those living abroad? In the United States? In Argentina? What about Austria or Switzerland? Are the German-speaking people of these countries German or something else? Or perhaps our journalist had in mind the abstract concept of the ethnic experience and behavior of which the last thirty years mark off only a short segment. In other words, he might mean the cumulative experience of a group of people which may bear in German the label "der deutsche Geist." This does not help matters much, for the subtle complexities of the question are at once revealed to anyone who has made a conscientious effort to translate the term "der deutsche Geist." The questioner who flings his query backward into history, "Was ist der deutsche Geist?" hears it echo from more illustrious and nefarious monuments than can be named here, from more anonymous and indecipherable ones than even experts know about.

Reconstruct the collective consciousness in which these names represent only a few of the vital elements? Who is going to try it? And in what length of time? And what is the predictable result of such an attempt bound to be? A little translation, a slight increase of linguistic sophistication, gives a changed perspective.

And this has brought us to the remaining great residual by-product of language study: its specific counteraction to insularity of many kinds. Let us return to the subject of history: nobody supposes for a moment that all the people studying this subject are going to become historians or even remember accurately very much of what they learn. But history does help people to get out of themselves and their immediate surroundings and traditions, to get a perspective of themselves and their country. One cannot view a house in perspective by staying inside it; one cannot view one's own people in perspective without stepping outside into the past, one's own past and the past of other peoples. Similarly in language: one cannot have any just and balanced feeling about one's own language without getting outside it and viewing it from the vantage point that is built up by some knowledge of a foreign language. And it must be emphasized that this perspective is not primarily a matter of intellect or conceptual abstraction, but of the way a foreign language looks, sounds, feels in the mouth, and handles in the mind.

Language study has an equally obvious specific counteraction to literary insularity. The stature of Corneille is very different to someone who has not read Shakespeare in English or Goethe in German from what it is to someone who has. In the area of psychological and social studies, too, contact with foreign writings, German perhaps especially, is a most wholesome corrective of the tendency to a certain superficial positivism which is likely to characterize even our better efforts in these areas. Who can measure what widening of the student's horizon must take place in his efforts to find the just and adequate English expression for terms like *nachempfinden* or for the distinction, so clear and, to the German, so self-evident, between *Kultur*

and *Zivilisation*, and between *Erfahrung* and *Erlebnis*? What more direct and readily accessible antidote is there than grappling with foreign words and sentences to the rather dismaying naïveté of self-centered monocultural premises in the social sciences? And, by a necessary extension of this idea, it can be seen that the specific counteraction of language study to insularity extends into the field of politics and international relations also. It is an ever repeated experience that concern with the language of a people affects one's personal relations with and attitude toward speakers of that language, a fact which is of utmost significance when our most pressing problems are political.

It is plain that now as never before we must become more keenly and delicately aware of national habits of feeling and thinking which are unlike our own. A speaker on a recent University of Chicago Round Table mentioned the desirability of instituting a Marshall plan of information on the analogy of the economic Marshall plan. The economic Marshall plan is, by comparison, vastly easier to implement. Any currency that will buy goods is acceptable anywhere those goods are needed. But how do we know what intellectual and psychic currency is acceptable in the countries we wish to, shall we say, aid in our informational Marshall plan, unless we know something —a great deal, in fact—about the mentality of the people inhabiting those countries? The mentality of a people is so intimately and inseparably bound up with its language that any attempt to penetrate that mentality without a direct and intuitional feeling gained only from an empathic grasp of its language is bound to fail. The essential spirit of a person or a people does not come across in a translation any more than the essential spirit of an organ fugue comes across in a transcription for solo voice.

But one does not have to be proficient in the language or the organ to begin to understand the subtleties of semantics and hermeneutics involved in a transfer from one medium to another. One needs only to have heard an organ to realize that the voice transcription of a fugue is nonsense. One needs only to have tried to read and make a serious translation of Eichendorff or Theodor Storm or Thomas Mann to be ready to suspect that our informational Marshall plans are likely to be trying to pass off currency that will not buy anything among the peoples we are trying to reach. If people with some experience in foreign languages and literatures find that their grasp of the range of feeling and basic assumptions of a foreign culture may be rather far from perfect, the monoglot positivists among us are liable to be disconcertingly unaware of the fact that a problem exists. For them there is no essential "otherness" in a foreign culture, and they actually do not know what they are doing if they advocate reduction of the place of foreign languages in high-school and college curriculums. The essentials of a document in German or in Russian leak out between the words when it is put into English or any other language, and all that is left is a dry and mealy mass. A generation fed exclusively on this mealy mass does not suspect that there ever were any essential juices in it. Whether these essential juices are vital elixirs, as in the case of Goethe, or poisonous precipitates, as in the case of Stalin, ignorance of their existence is dangerous, and the future leaders of our country have the right to an education that will make them aware of their existence. We who teach in colleges and universities, being the people from whom these future leaders trustingly expect the guidance that will enable them to reach their best potentialities as human beings, have an absolute duty to provide them with that sort of experience that will combat their insularity and sensitize their understanding and use of that most subtle and elusive distillation of individual and national mentality—language.

RESPONSIBILITY FOR THE TRAINING OF COLLEGE TEACHERS

John S. Diekhoff

THERE is a wide range of ability among college teachers. Some are brilliant; many are competent; many are not. Even in the absence of effective means of evaluating college teaching, we may be sure of this. The incapacities of the less competent college teachers are various and are to be explained variously. Some lack the qualities of personality which make teachers effective, whatever those qualities may be. The teaching of some lacks focus because they have no philosophy of education—or because they have no philosophy at all, in spite of their doctorates of philosophy. Some are too narrowly educated, knowing only their special subjects. Some are unskilled in the arts of pedagogy. These observations are not platitudes. Undergraduates, to be sure, have always known that they are true; but educators generally are only beginning to know it.

Recently, however, educators have begun to recognize publicly and explicitly that there are college teachers who cannot teach, and they have proposed to do something about it. Many recent conferences on higher education have scheduled discussions of "the recruitment of college teachers," "the training of college teachers," "the improvement of teaching," and "the evaluation of faculty services." Graduate schools are at last beginning to appoint professors of higher education. A number of institutions have established more or less systematic programs for the training of college teachers, and still other institutions are contemplating such programs. There is hope that some future generation of college teachers will have the benefit of training in their profession and therefore that their students will be better taught; but there is danger that the systematic training of the future will be no better than the haphazard training which has produced college teachers in the past.

College teachers should have many accomplishments, some of which we may hope at least to encourage by well-planned training programs. The college teacher should himself be broadly educated if he is to contribute to the general education of his students and if he is to view his own special interests with proper perspective. He should have a philosophical habit of mind, and his philosophy should include an understanding of the purposes and processes of education and the part that schools may play in education—and the part that other institutions play. He must be expert in the particular subject that he professes. He should be skilled in the arts of pedagogy.

The most frequent proposal to assure that future college faculty members will be more broadly educated and more philosophical than some present staff members and that they will be more skilful teachers, is the proposal to reform the graduate schools—more specifically, to revise the requirements for the Ph.D. or to establish a new doctorate for prospective college teachers. Among the most insistent advocates of such revision are the educators who are most directly concerned with the growing and multiplying undergraduate programs of general education. Perhaps the difficulty of

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staffing has been greatest in these programs, in which the need for broadly educated, philosophical instructors is most obvious.

Although the colleges generally have never really required their faculty members to complete the doctorate, they often say that they do, and a large proportion of Ph.D.'s go into college teaching. The Ph.D. has therefore come to be regarded as preparation for college teaching. Since the degree is so regarded, it is understandable that the young Doctor complains of his graduate school that it has not taught him what he needs to know; for he soon finds there is little direct relationship between his investigation of *Pro bono publico* letters in Victorian journals and his teaching of freshman composition. It is understandable that deans of undergraduate colleges expect Ph.D.'s to be able to teach; and, when they find that not all Ph.D.'s can teach, their complaint that the graduate schools have not done their job is understandable. It is understandable, but it is also paradoxical, that the advocates of general education (the chief opponents of narrowly vocational training in undergraduate colleges) should be among the most vocal objectors that conventional graduate training does not develop immediately applicable vocational skills.

The proposal to change the requirements for the Ph.D. or to establish a new "teaching doctorate" is not surprising, then. On the contrary, it is the obvious proposal. Hardly less obvious are many of the particular changes that are suggested. The Ph.D. as it is at present constituted, we are told, is calculated only to encourage enthusiasm for research. It produces not teachers but research scholars. It does so because of the inordinate emphasis upon the dissertation, in which the candidate is expected to demonstrate his mastery of the techniques of research in his chosen subject and to make a contribution to the world's knowledge. Ph.D. training does not broaden the candidate's interest and knowledge; instead, it encourages him or requires him to place very narrow limits on his interests. It does so because of the inordinate emphasis upon the dissertation, by which the candidate is required to restrict himself to a field of knowledge so small that he may hope in a year or two to know more about it than any of his teachers. Ph.D. training does not give the candidate a true perspective but a false one, because of the emphasis upon the dissertation. Concentrated study of them makes even *Pro bono publico* letters in Victorian journals seem important. Accordingly, proposed teaching doctorates would omit the dissertation or change it. They would substitute exercises in which the candidate (perhaps twenty-four years old) is expected to demonstrate breadth of learning and profundity of thought, not to make some contribution to the world's knowledge and not to demonstrate his skill in the techniques of scholarship.

If the dissertation is to be replaced by exercises designed to show or to develop breadth of learning, the rest of the Ph.D. program will also be changed, of course. The whole program is to become a program not of specialized, but of general, education. For vocational reasons, because he will almost certainly teach in an undergraduate program of general education, the young Doctor must be a specialist in general knowledge. The curriculum of the undergraduate college in which he will teach is likely to be divided into three or four parts, reflecting the increasingly common "divisional" organization of faculties. The graduate student—the prospective teacher—accordingly, must study the physical sciences, the biological sciences, the social sciences, and the humane sciences. Since his teaching will be in the "humanities" or in "literature" (not in philosophy or English or French or classical literature) or in "science" (not in physics, or chemistry, or astronomy), he must also have special competence in several disciplines

and must have specialized training in several, not only in one.

Ph.D. programs, then, are to be changed into programs of general education—with special emphases, to be sure, for prospective teachers of the physical sciences, the biological sciences, the social sciences, and the humane sciences, respectively. Although these broad special fields will probably be taught in the future, as in present programs of general education, by different staff members and will therefore require special emphases in graduate training, all prospective college teachers must be broadly educated, will profit from a "general education." Even if graduate programs are modified to provide this special general education, however, graduate training will still be inadequate, according to some of its critics, unless it includes courses in the history and philosophy of education and courses in teaching methods. If graduate training is vocational training, if the Ph.D. program is the teacher-training program, it must include specialized, vocational training in "education" as well as vocational training in general education. Not infrequently it is further proposed that Ph.D. training be accompanied by or include supervised practice teaching and become a kind of internship. Sometimes it is suggested that the teachers colleges and schools of education assume responsibility for preparing college teachers and especially junior college teachers. Sometimes government certification of college teachers is proposed, to assure that college teachers will have vocational training at least comparable to that required of teachers in the lower schools. Some localities have already established procedures for the certification of junior college teachers.

With much of this argument, but not all, we may agree. Men and women teaching in undergraduate colleges should be broadly educated, highly civilized people. They should have a philosophical habit of mind. They should be expert in the subjects they teach. They should be skilled in pedagogy—expert in the people they teach. We may agree that teacher training may well accompany graduate schooling.

But the criticism that the Ph.D. does not adequately prepare prospective college teachers for their jobs is based, apparently, upon two assumptions: (1) that the prospective college teacher should not be expected to know anything when he enters the graduate school and (2) that he may not be expected to learn anything after he leaves it. With these cynical assumptions we cannot agree. On the contrary, since the Ph.D. candidate has completed an undergraduate course, usually respectably, we ought to suppose that his undergraduate college has taught him something. When it recommends him to the graduate school, it says it has. On the other hand, when the prospective teacher has completed his Ph.D., it is reasonable for him to expect the institution which employs him to show him how it wants the job done. Other employers do. If the undergraduate college fails with students of graduate-school caliber, with whom does it succeed? If an institution whose business is education cannot train its employees, what institution can?

There are, then, at least three institutions of higher education (omitting the junior college) which contribute to the training of the college teacher: the undergraduate college, the graduate school, and the employing institution. Even though the college teacher may pursue his undergraduate education and his graduate schooling and do his first teaching all in the same university, he stands in three different relationships to that university, and we are justified in identifying three phases of its training of college teachers and in asking what parts of that training are the responsibility of the undergraduate college, the graduate school, and the employer.

It should be the object of the undergraduate college to give its students

(among them, prospective teachers) the general education and the philosophical habit of mind that we have agreed are desirable in college teachers. If the undergraduate college fails, we should seek ways to improve it, not ways to assign its work to the graduate school.

The college graduate cannot be expected to have all the "general education" he needs to live his life fully—or to teach in a college. But the college graduate should know a good deal. He should have competence in the basic intellectual skills of reading, writing, listening, speaking, and calculation. He should be able to evaluate evidence and come to reasonable conclusions. He should have a good deal of the knowledge we have come to think common to all educated men. He should have some insight into the methods, some acquaintance with the achievements, of the chief disciplines into which we divide our knowledge: the physical sciences, the biological sciences, the social sciences, and the humane sciences. He should have a basic vocabulary and an understanding of the scope and methods of these disciplines that will enable him to continue his general education without the aid of formal instruction. He should be curious and philosophical: curious enough to seek further knowledge and philosophical enough to evaluate his new knowledge in terms of the old. The college graduate who has these accomplishments and these habits of mind is as ready for life as the college can make him—and as ready for graduate school. Moreover, his college has done its share in preparing him for the profession of college teaching.

If the prospective college teacher is curious, if he has a philosophical habit of mind, we may discover that we need not require him to take special courses in the history and philosophy of education. Surely such courses should be available to him, and he will take them from choice or seek knowledge of the history and philosophy of education for himself. Ideally, at least, the educated person who devotes himself to the practice of teaching will be curious and thoughtful about education, without course requirements, just as, ideally, the educated person who devotes himself to the practice of law will be thoughtful and curious about jurisprudence.

This is not to say that the graduate schools are beyond criticism. They probably do not do their proper job any better than undergraduate schools do; but they are often blamed for failing to do the job of other institutions and are sometimes blamed for successes that they do not achieve. For they are accused of training research scholars instead of teachers. This charge is almost absurd. If training research scholars is what the graduate schools aim to do, it would be a sounder criticism to say that they fail. Many Ph.D.'s produce no significant research beyond the dissertation, and theses and thesis subjects have for many years been a standard joke both in and out of the profession.[1] But the direct object of Ph.D. training, as Dean Charles W. Jones points out, is to develop love of learning, not to produce research scholars:

> The degree Doctor of Philosophy, which means by implicit definition "teacher of the love of knowledge," says in that phrase several things, and several things it does not say. It says that within the limits of human fallibility, a faculty has judged the possessor of the degree to be a true lover of knowledge, which, as Socrates was quick to point out, is something quite different from a sophist, or a man who says he knows. . . . The school . . . does not ask what a man knows, or what he can do, or what he is preparing to be, or any other of a dozen very important questions that are proper for asking elsewhere. It

[1] The faculty of a first-rate public college (68 per cent of whom had Doctor's degrees) published 0.54 book and 2.7 articles per faculty member over a period of five years. Fifty-nine per cent of the faculty published no books, and 44 per cent published no articles during this period.

asks for a demonstration that he loves knowledge and will continue to love it.[2]

If his love of learning results in the continuing increase of the Doctor's knowledge, that is what it should do. If it leads him to increase not only his own but also the world's knowledge, he is what we call a "productive scholar." If his love of learning leads him to share his knowledge and his love of it with others, we may call him a "productive teacher."

Although it is commonplace to regard productive scholarship and productive teaching as mutually exclusive accomplishments,[3] perhaps no product of the graduate school is more likely to be an effective college teacher than the productive scholar, not because "productive scholarship" is a condition of good teaching but because love of learning is a condition of both scholarship and teaching. The real enthusiast for knowledge will pursue it and will communicate it, in books and articles or in the classroom or by both means.

Of course, there are scholars who do not publish. We have called them "productive teachers." They may be the best teachers we have. But failure to publish is not what makes them good teachers, and it does not follow that a faculty member is a good teacher because he does not publish. He is not likely to be a good teacher unless he shares the enthusiasm for knowledge of the productive scholar. On the value of scholarly activities as an index to the quality of teaching, the late Dean Melvin E. Haggerty wrote as follows:

> Publications and [learned] society contacts are the evidences that the individual is still alive, that he still reaches out for intellectual stimulation and the comradeship of alert minds. Because this is true, the college teacher who publishes the results of his thinking and still has commerce with his colleagues of similar interests throughout the land contributes to the spiritual life of an institution in far greater measure than he who is merely busy with his institutional and personal duties.

The facts revealed by this study cast a deep shadow over the contention frequently voiced that productive scholarship is incompatible with teaching effectiveness. Probably no scholar accepts this view, which is most often advanced by those who have produced nothing . . . it is the live scholar who contributes most to the educational quality of an institution. Students are better served in an institution peopled with scholars, though half the classes do not meet, than in one in which the schedule is perfectly kept by a faculty from whom has passed the power to think about new problems and the will to solve them and whose members have ceased to yearn for the company of other scholars. No legerdemain of technical teaching method, no degree of fidelity to the hour's call, no amount of human sympathy can compensate for the absence of the unique intellectual and moral atmosphere that is generated by the scholar in action. Where faculty scholarship is neglected, or, as in some cases, derided, students suffer; in an atmosphere of scholarly endeavor they are stimulated and helped.[4]

The graduate school, then, in so far as it can distinguish them, should admit as candidates for the Ph.D. only those college graduates who have demonstrated their curiosity and who have the philosophical habit of mind that will protect them against the dangers of "overspecialization." Certainly, the graduate school should not so regiment its students as to make it impossible for them to continue their general education. It should encourage, not discourage, the philosophical habit of mind that will lead them to synthesis as well as analysis and that will help them to keep even a spe-

[2] Charles W. Jones, "The Truman Report and the Graduate School," *Journal of Higher Education*, XX (October, 1949), 357–58.

[3] "The typical research man has neither the interest nor the personality for the instruction of any but advanced students in his own field, and the typically successful undergraduate teacher has neither the interest nor the personality to do outstanding research" (Luella Cole, *The Background for College Teaching* [New York, 1940], p. 505).

[4] Melvin E. Haggerty, *The Faculty*, "The Evaluation of Higher Institutions," Vol. II (Chicago, 1937), pp. 95–96.

cial interest in *Pro bono publico* letters in reasonable perspective. But the chief more particular objects of the graduate school should be to develop further the love of learning in its students, to give them some mastery of the techniques by which they may pursue knowledge in their special subjects, and to provide them with some expert knowledge upon which they may build and which they may communicate to their future students as they communicate their enthusiasm for learning. This is enough for the graduate school to do; and if it does this, it makes its proper contribution both to scholarship and to teaching. If these are the objects of Ph.D. training, it is vocational training for the prospective teacher, just as his undergraduate schooling is vocational training: it helps fit him for his vocation. But neither Ph.D. training nor undergraduate general education is professional training in the same way that training in dentistry is, or vocational training as training in shorthand and typing is.

Broadly speaking, all the formal schooling of the teacher—indeed, all his education in and out of school—is vocational training. Even though Ph.D. training is terminal schooling, it does not follow that the graduate school is responsible for teaching the teacher everything that he needs to know. One cannot be an effective teacher without what one learns in the primary schools, but we do not ask the graduate school to give a student remedial teaching in fractions and the alphabet merely because every teacher needs them in his work. To ask for a graduate program in "general education" is also to ask for remedial teaching.

There is a familiar sound to the proposal that graduate schools devote themselves to undergraduate education. It is one of the many bucks we pass from school to school. Freshman composition courses are perhaps the clearest example (but by no means the only one) of remedial teaching undertaken by the colleges. For years these courses have been devoted to teaching what we still regard wishfully and wistfully as "fifth-grade English." As the primary and secondary schools have shifted their emphasis from preparation for college to preparation for life, it seems to some that they have stopped preparing for anything. The colleges are therefore asked to take over the job.

We need not dwell on primary and secondary schooling in considering the professional training of prospective college teachers. We shall be starting early enough if we consider professional training to begin with undergraduate education. And we have made our point. The object of the undergraduate college is or should be to give its students (among them, prospective teachers) the general education and the philosophical habit of mind that we have agreed are desirable in college teachers. Beyond that, it is responsible for the discriminating recommendation of its graduates to the graduate school and therefore has an important responsibility in the recruitment of college teachers. The object of the graduate school is to develop the love of learning, to give its students skill in the basic techniques of scholarship (which is the pursuit of knowledge) and specialized competence in the field of learning in which they have chosen to become expert. Where, then, should they learn to teach?

They should learn to teach in the third group of institutions—those which employ them as teachers. However complete or incomplete schooling may be, the one kind of vocational training that is seldom safely omitted is on-the-job training. Everyone who can learn, learns on the job, of course, whether or not a director of training supervises his work. The object of a program of on-the-job training is to expedite on-the-job learning. In a manufacturing industry the objects of a training program are to increase production and to lower the percentage of rejected products—products

which do not pass inspection. In the college it should be the same. The obligation of the employing institution to provide for the training of young teachers is only secondarily an obligation to the young teacher. Primarily it is an obligation to the students he teaches or will teach. This consideration alone requires the employing institution to share responsibility for teacher training with the undergraduate college and the graduate school in which the young teacher has had his preservice training. If teacher training were the responsibility of the graduate school, the first obligation would be to the prospective college teacher, not to the undergraduate upon whom he "practices." The undergraduate would become a "teaching aid" of the graduate school (as in the hospitals of some medical schools there is a tendency to regard the patient as a teaching aid).

Some devices for the training of college teachers are applicable in any college which accepts the responsibility. Common sense will see that programs vary, however. The part played by the school of education in a university, for example, or by the department of education in a college may be different in different institutions; for this will depend upon the kind of teacher-training program established, upon the personnel of the education faculty, and upon their relationship with their colleagues in other disciplines. Faculty training programs will require somewhat elaborate formal organization in some institutions and may be conducted informally in others. This is not a question of numbers only but also of duties and status.

The young teacher frequently does his first teaching in the college of the university in which he is also a graduate student. In establishing a teacher-training program, the university college has the advantage that its apprentice teachers or interns are likely to be part-time employees. Their apprentice status is likely to be made explicit by such titles as "assistant," "fellow," "teaching fellow," or "junior instructor." There may even be a hierarchy of such titles, marking steps toward "faculty rank" and paralleling progress in the graduate school. It may be taken for granted (although it often is not) that such junior staff members are subject to guidance, instruction, supervision, and direction by the faculty members whom they "assist." But it is not as graduate students fulfilling the requirements for a degree that they should be required to learn something of the objectives and techniques of teaching. They should learn to teach as interns or apprentice teachers satisfying the conditions of their employment.

If the young teacher is regarded as an intern or apprentice, it follows that those responsible for the planning and supervision of his training will be responsible for it not as professors conducting graduate courses in pedagogy required for a degree or certificate but as senior colleagues working with younger colleagues in a common enterprise. If, by chance, these senior colleagues are also the young teacher's graduate professors, the two relationships may strengthen and support each other, to the benefit of both kinds of training. To recognize that the same individual may best learn to study, as a graduate student, on one side of the desk and may best learn to teach, as an apprentice teacher, on the other side of the desk need not obscure the fact that he is a single person. In mastering both skills he may be helped by the same people, more experienced and presumably more expert than he both in learning and in teaching.

In the independent college, unless the requirement that the young instructor be subject to guidance, instruction, supervision, and direction is explicitly a condition of employment, there will be no requirement at all—for there is no graduate school to which to pass the buck. Moreover, in the independent college, the young instructor is usually a full-time employee, a member (if not a voting member) of the faculty. He has no

graduate work and no student-teacher relationship with his older colleagues to remind him and them that he is still a learner. Unless senior members of departments and divisions regard the training of young instructors as part of their job and unless young instructors regard themselves as learners, they will get no help at all. Participation in a program designed to improve teaching should be a condition of employment in any college. Whatever part the graduate school may play in the training of college teachers, the colleges themselves should be responsible for two portions of their training. In the college the prospective teacher should receive the discipline of a sound general education, and in the college the young teacher should learn the job of teaching.

Throughout our discussion we have given as our object the training of young teachers—apprentices or interns. This would seem to assume that older faculty members have nothing to learn, have learned their job on the job without the benefit of a systematic training program. Some have not, of course, and no sensible administrator would put inept teachers in charge of a teacher-training program. But a program of on-the-job training for teachers may be expected to benefit elder as well as younger teachers; for the elder teacher will be responsible for teaching his juniors to teach, and every teacher worth his salt learns at least as much as his students. There will be double benefit to the undergraduates whom the whole faculty teaches.

BOTANY SIX, AN EXPERIMENTAL COURSE

W. R. Hatch

THE experiment was initiated quietly and without the preparation that marks most efforts of this sort. I simply decided to risk it as I walked to the first meeting of the class. It is true, I had been toying with the idea for several years but only when the war brought me a small class and drafted my teaching assistants did I decide to throw the old notes and manual away and cut loose on my own. Mine was a conventional class; the students had memorized their way through high school and college up to this point and knew nothing but the comfortable lecture-textbook-laboratory method of instruction. Ours, as I have implied, was also a conventional environment; the "conference" or "group conference" was entirely foreign to our experience. For the first two weeks it was quite unsettling for the students, and I almost lost my nerve, but after that our semester together built up into what was easily the most exciting course I have ever taught.

To the second meeting of the class the students brought loose-leaf notebooks filled with blank sheets, their dissecting kits, and that was all—no textbook, no manual. They felt almost naked, as one student put it. Since the notebook was to be their laboratory manual, their "lecture" notebook, their repository for outside readings, and their examination file, the class was instructed to bring it to all meetings. The fact that there would be no lectures in the accepted sense, at least no scheduled lectures; that in their stead the instructor would interrupt the laboratory whenever the work required additional background; and that quizzes could happen whenever the learning process required made it impossible for the students to neglect their notebooks. Since every day's session presumed the completion of the work of the last and required the background of overnight reading, the student had to keep up and did.

Ours was not the ideal classroom—"a log with a student on one end and the teacher on the other"—but we did the best we could with what we had. To hold down the instructor's end of the log, I brought in a desk equipped like the students' tables and set it up beside their benches. Here with my own blank notebook and with a blackboard at my back, I faced the class. The students, twenty-three in number, were grouped around me, four to a table.

Our first task was to organize the blank notebook that we had all brought to class (for me it meant the organization of the course). The students' expectation was that we would pour the material into the book day by day and page by page. Perhaps we would, but we had a question or two to answer first—"What material should we study?" and "How should we study it?" Since this was to be a survey of the plant kingdom, there was no lack of material; there was just too much of it. Which forms or types should we include, and what did we want to know about these forms? To get some idea of the size and nature of our problem, we decided to study different systems of classification. The decision was theirs; the suggestion may well have been the instructor's. In this way we could find out what plants and what characteristics of plants were thought to be important in classification. For our

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study to be fairly representative we concluded that we would have to look at representative material in some seventeen groups or classes. We used the seventeen groups as the main headings or guides for the notebook. But we still had to decide on just what subheads needed to be included in the notebook. There were the life-cycles (morphology), and there were cytological, physiological, and taxonomic features to explore and evaluate class by class. The usual life-cycles could be studied in their usual number (too many to be digested), and we could assume that bits of cytological, physiological, and taxonomic information would of necessity be taken in with the life-cycles, but these isolated "bits" did not add up to a meal in our opinion. How, then, were we to create a hearty appetite and then satisfy it?

A natural system of classification provided something more than convenient headings for a notebook. It also implied a phylogenetic series or evolutionary sequence. Some groups of plants live in evolutionary back alleys, some on dead-end streets. We could survey a back alley with some profit, but, if we were to study representative plants and get an overview of the plant kingdom, we might more profitably select a series of plant types that were on or near the main highway. By making such a selection we were able to reduce the number of life-cycles to be studied from seventeen to seven. A lesser number should mean a more critical study of each life-cycle, and it might leave some time for the student to think about the significance of what he was doing. While we were able in this way to select seven classes, we still had to settle upon the actual type genera. We could elect to study the classical types, the ones figured in the textbooks, but we decided to study type genera whose life-cycles were well known but which were not quite so shopworn. The use of less common type genera meant that, given the proper material, a little guidance, and encouragement, the student had to discover his own life-cycles, since it was easier for him to discover them for himself than to look them up in the literature.

The type genera selected were: *Bacillus,* bacterium; *Phormidium,* blue-green alga; *Zygnema,* green alga; *Anthoceros,* liverwort; *Psilotum,* psilophytineae; *Polypodium,* fern; and *Agropyron,* flowering plant.

The name of each of these type genera was accordingly introduced into the notebooks as the title for the first page following the appropriate class headings. This page was entitled "Life Cycles, Comparative Morphology" and was reserved for the diagram of the life-cycle.

To build comparative cytology, comparative physiology, and taxonomy into studies with substance and significance, the second page for all seven classes was earmarked "Comparative Cytology" and was set aside for this material. Page 3 was reserved for "Comparative Physiology," and page 4 was earmarked for "Characteristics of the Class." By discussing the organization of the course with the students in advance and in preparing their notebooks with them, even the dullest student was bound to have a pretty good idea of where he was going. Science has been described as "organized common sense." For the students in this course organization became as meaningful as a good grade, for the better their organization, the better their grade.

Life-cycles, comparative morphology.—The first order of business, the "I" in our outline, was the life-cycles, and the students were all for getting on with them, but they had to be cautioned that they did not yet know enough about a life-cycle to discover one. And so, working carefully and thoughtfully, we dug out a typical life-cycle. It was a pretty complicated business, for it involved the spore, spore germination, gametophyte, gametangia, gametes, fertilization, zygote, sporophyte, sporangia, meiosis, and spores. Since this cycle turned on fertilization and meiosis, we took plenty of

time with these two phenomena. There was also heterothallism, homothallism, monoeciousness, and dioeciousness to study in principle. The terms used here had general application and were chosen for that reason. This all took time, but the time proved to be well spent.

Knowing what went into any and all life-cycles, we were ready for the first one, and what we did was to provide the students with all the material we could—whole material, living and pickled, in different stages, and as complete a series of microscope slides as we could assemble. The students were then given their heads. They were on their own—or almost on their own. As a guide they had their typical life-cycle outline—spore, spore germination, gametophyte, gamete, etc. The instructor's role was to urge them to take another look or to think with the facts they had.

When you ask students to discover a life-cycle for themselves and for the first time, you are very likely to feel the weight of the students on the other end of the log. They know what ought to go into a life-cycle, they know how to diagram it, and they have the necessary materials. They have a microscope and know how to use it. They have a mind, but they do not necessarily know how to use it, and so for a while the class may sit stunned and thoroughly stalled. It may even take half an hour or longer before you begin to hear the first self-starters turn over in the first students. The word "hear" is used advisedly, for when they first get the feel of it, they let go with a grunt or an "Oh" or a scream, depending upon their natures or their sex. It is worth waiting for! The class made a lot of mistakes the first day, they were careless in their observations and assumptions, but, by encouragement in thinking with the facts they had, they ultimately learned to do it. The really surprising thing is to see how fast the better students learn to do it. All the students of necessity have to master the technique, and toward the end of this particular study it is a pleasure to watch the students walk to their benches, roll up their sleeves, and go to work, ignoring the instructor and dispensing with the usual round of small talk. It is really something you have to see to believe. But the most important discovery that the student makes has nothing to do with life-cycles; it is that he has a mind and that he can use it.

Essential ingredients for such a program include courage and knowledge on the part of the instructor. He has to understand what he is doing, and he must believe in it. Nor is the good instructor as rare as is sometimes assumed. The second year I had a larger class, which required sectioning and the use of teaching assistants. It was not as good a course this year as when I had had it all alone because we did not have time to train the teaching assistants, but it went surprisingly well, well enough so that I know it is practical for large classes, provided that they can be sectioned. Two small classes of eighteen students each is much better than one section of thirty-six with two teaching assistants.

Anyone who has been subjected to or has taught many surveys knows that life-cycles are often a pretty dreary assignment for both instructor and student. Life-cycle piled on life-cycle, no matter how good the motive, can break the student's back.

Comparative cytology.—After some familiarity with the plant kingdom had been acquired by a study of representative life-cycles, we took up "Comparative Cytology" and then "Comparative Physiology" class by class. With cytology as with the life-cycles, we did not unlimber our guns until we had the terrain pretty well explored. In our preliminary exploration we developed a catalogue of those features of protoplasm which had to be taken into account if one were to dig out the significant cytological peculiarities of each new bit of protoplasm. This catalogue, which was to be our guide in these studies, had the following "check-off" points:

Walls
  Present or absent?
  Chemical nature?
Plastids
  Present or absent?
  Shape?
  Structure?
  Pigments?
Characteristic food reserves
  Starch?
  Glycogen?
  Oil?
  Pentosans?
Vacuoles
  Present or absent?
  Size and number?
Nuclei
  Number?
  Organized or not?
Centrioles
  Present or absent?
Motile cells if any
  Ciliation?

Using this outline, we worked through the notebook, hitting every class until we reached the vascular plants, where we let one plant represent several classes.

Again the student was given the best material we could assemble, both slides and living plants: a vegetative cell (a photosynthetic cell if the plant was photosynthetic) and slides of motile cells if present, and occasionally spermatocytes when this was necessary to reveal the presence of centrioles. We even threw in the amoeba so that the student would know something about animal protoplasm. The students had their microscopes and a set of microchemical tests for walls and food reserves. If preparations were required, they were supposed to know it and act accordingly. They had their "check-off" points, and again they were on their own.

Comparative physiology.—We got student participation with this material, but we had to get it in a different way. What we did here was to give the students a pretty complete picture of the physiological attributes of living things in lecture. This synopsis touched upon (1) synthesis, (2) digestion, (3) respiration, (4) growth, (5) irritability, and (6) adaptation.

By means of demonstrations set up on the students' benches and questions on these demonstrations, we tested the students on their ability to relate what they had learned in lecture to these actual situations.

Using the six physiological attributes as a guide, the students also developed their own statements of the physiological idiosyncrasies of the several classes, this going into their notebooks on the third page under each class.

Characteristics of the class, taxonomy.—Under this heading for all classes the students were to enumerate those morphological, cytological, and physiological features that characterized each class. Normally the characterization of the class is given as an introduction to the work on any class, and the student dutifully memorizes it. Under our arrangement, in which the characterization of the class followed a consideration of the morphological, cytological, and physiological properties of that class, we could and did require that the students make their own evaluation. To sharpen their acuity in this effort and to get a measure of their success, the students were graded on their ability to make discriminating characterizations.

The great biological theories.—There are some generalizations that transcend classes and division, or even the plant kingdom, for that matter. These generalizations are our "biological theories." Space for the development of these theories was left in the back of the book when we organized it. The theories we had in mind were five in number: (1) the theory of organic evolution, (2) the theory of biogenesis, (3) the Mendelian principles, (4) the protoplasmic theory, and (5) the taxonomic theory. These theories, however, were not stated or named because we wanted the students to discover them for themselves and to develop their own statement of them. To this end the work on the theo-

ries was organized around problems, one for each theory. Better statements of better problems can and presumably will be developed, but the following problems did the trick for us:

1. What are some of the implications in the phylogenetic series whose life-cycles were studied? (theory of organic evolution)
2. Where in the plant kingdom have plants arisen *de novo*? (theory of biogenesis)
3. What is the mechanism of genetic transmission from one plant generation to the next? (Mendelian principles)
4. What identifies living things (plants)—tissues, cells, or protoplasm? (protoplasmic theory)
5. How do you account for the fact that plants show relationship? (taxonomic theory)

These problems required the students to assemble pertinent data and seek the implications in these data. In other words, the students, together with the instructor, had to develop their own generalizations or theories.

Quizzes and examinations.—The quizzes and examinations, like the course, not only tested the student on his mastery of the facts but also on his ability to dig out the facts and think with the facts. Or, to put it in other words, they tested his skill in using scientific methods. Some questions required that from his facts he select those which were relevant. Others required observation, and these observations sometimes involved preparations and simple experiments. Still other questions involved interpretation or, as it is sometimes described, skill in synthesis or generalization.

The usual practice in developing a new course is to establish in advance the "principles" which you wish to develop. This we did not do. If we had any principles, they existed in the subconscious. We simply got into the course the best way we could and felt our way through it from week to week. If ever there was an experimental course, this was it. While a lot of thinking went into the course, most of it was done with the students in the laboratory, and much that we did was felt rather than thought. In retrospect, however, it is clear that, consciously or unconsciously, we followed some pretty sound principles.

1. The students were "self-taught," at least in some degree, in the Agassiz-Hopkins tradition.

2. Rather good use was made of the principle of "selection," in that the number of life-cycles studied was reduced to those that could be considered critically. This number was complete enough to provide a good evolutionary series, and the course acquired more depth this way than it could have through greater breadth.

3. The course taught the scientific method by using it. Organization—the thing students want in all their courses but expect the instructor to provide—was supplied here in large part by the students. The course also provided good training in observation, in synthesis, and in generalization—good because the students did a lot of it.

4. The lecture and textbook seem to have made intellectual cripples out of many of our students and are, I suspect, responsible for the fact that the educational process too often stops at Commencement. Four years on these crutches is enough to cause the intellectual legs of students to wither from disuse. When we took the crutches away from our students, it was pitiful at first, but our cripples learned to walk, and they were as proud of themselves as the day they learned to take their first step. The course may not have taught self-reliance and self-respect, but the students caught something of the meaning of these words.

5. The thrill of discovery is not the exclusive prerogative of the teacher and investigator. It can be shared by students. Given the materials, an eighteen-year-old boy (and he need not be too bright) can discover a life-cycle. Memorizing someone else's discovery is not a very satisfactory substitute.

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